

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2588.—Vol. LV.

LONDON, SATURDAY, MARCH 28, 1885.

PRICE ..... SIXPENCE.  
BY POST, £1 4s. PER ANNUM.

**MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,**  
AND MINING SHARE DEALER,  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING STOCKS and SHARES (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.  
BUSINESS negotiated in STOCKS and SHARES not having a general market value.

Every week a GENERAL and RELIABLE LIST issued (a copy of which will be forwarded on application), containing closing prices.

MINES INSPECTED.  
BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, St. Austell.  
TELEPHONE NUMBER 1003.

SPECIAL DEALINGS in the following (or part):—

100 Asia Minor, 2s. 3d.	25 Gunnis, (Chit.), 7s.	150 Parry Copper, 9d.
50 Alankon, 1 p.d., 5s. 9d.	100 Hoover Hill, 5s.	30 Phoenix United, 25s.
50 Almada, 2s. 6d.	50 Home Mines Trust, 13s. 6d.	25 Panulicillo, £2 1s. 3d.
25 Bedford United, 15s.	100 Indian Consol., 2s. 9d.	50 Prince of Wales, 1s.
250 Balkis, 2s. 9d.	100 Javali, 2s. 6d.	100 Pestana, 1s.
50 Bratsberg, 12s.	100 Kapanga, 6d.	100 Rio Tinto, £11 1s. 3d.
100 Cankim Bamoo, 1s.	20 Killifreth, 10s. 6d.	100 Ruby (New), 6s. 3d.
75 Carn Cambrone, 5s.	75 Kim. No. Black, 17s. 6d.	15 Richmond, £3 6s. 3d.
80 Callao Bis, 5s. 3d.	100 Kohinoor B, 5s.	10 Roman Grav., £3 2s. 6d.
100 Cartago, 1 p.d., 9s.	100 La Plata, 5s.	20 Schwab's Gully, 1s.
45 ditto, 1st paid, 5s.	25 La Trinidad, 2s.	100 Spitzkop, 8s.
100 Colom. Hyd., 8s. 9d.	25 Leadhills, 21s. 6d.	50 South Caradon, 5s.
50 Consolidated, 2s.	100 Lisbon-Berlyn, 4s. 3d.	50 South Darren, 5s. 3d.
25 Colorado, £2 1s. 3d.	25 Marke Valley, 8s.	50 South Penstruthal, 1s.
100 Canada Copper, 3s. 6d.	20 Mason & Barry, £7 11s.	100 Tacuash, 1s. 3d.
100 Chontales, 2s. 6d.	50 Montana, 33s. 6d.	100 Tambracherry, 5s. 6d.
75 Cor. South Australian Copper, 2s. 3d.	100 Mounts Bay, 2s. 9d.	20 Tolima A, £3 10s.
100 Cootacow, 1s.	50 Mysore Gold, 23s. 9d.	20 ditto B, £2 2s. 6d.
100 Denver, 2s.	100 New Chile, 16s. 6d.	100 Transvaal Gold, 4s. 3d.
100 Devala Moyer, 3s. 3d.	50 Nacupai, 2s. 3d.	100 Tregontrees, 2s. 9d.
15 Devon Con., 24s.	50 New Caradon, 1s.	100 Trevaunance, 4s.
20 Devon Friend, 1s. 3d.	100 New Callao, 4s. 3d.	20 Trevaunance, £2 1s. 3d.
2 Dolcoath, £29 1/2.	100 New Emma, 4s. 3d.	50 Utd. Mexican, £3 1s. 3d.
50 Don Pedro, 3s. 3d.	50 New Kitty, 20s.	50 Van, 11s. 6d.
50 Duchy Peru, 10s.	200 Nouveau Monde, 2s. 3d.	100 Victoria Gold, 8s. 6d.
50 E. Blue Hills, 6s. 9d.	100 New W. Caradon, 1s. 8d.	100 Wacau Gold, 13s.
20 Eberhardt, 2s. 9d.	100 Nundydoo, 7s. 6d.	5 Wheat Agar, £19 1/2.
20 East Lovell, 1s.	150 Nine Roofs, 3s. 6d.	100 Wh. Bassett, £5 17s. 6d.
100 East Wh. Rose, 5s.	100 Old Shepherds, 6s.	100 West Callao, 2s. 3d.
25 Ecton, £1.	50 Oregum, 2s. 6d.	50 West Phoenix, 1s.
2 El Callao, £54 10s.	100 Organos, 8s.	50 West Caradon, 1s. 3d.
100 Frontino, 1s. 6d.	50 Orita, 1s.	100 West Crebor, 1s.
50 Gogman, 1s. 6d.	100 Oscar, 17s. 6d. paid,	50 West Polbreon, 1/2s.
100 Gold Coast, 2s.	7s. 3d.	10 West Kitty, £9 7s. 6d.
100 Glenrock, 2s. 3d.	50 Oscar Vendors', 25s.	60 Wheel Crebor, 18s.
100 Great Holway, 1s.	paid, 9s.	50 Wheel Crebor, 18s.
15 Great Lacey, £2 15s.	25 Polbreon, 1s.	100 Wynnad Perseu., 1s.
	75 Potosi (New), 11s. 3d.	
	150 Port Phillip, 2s. 3d.	

\* BUSINESS at CLOSE PRICES in all marketable TIN, COPPER, LEAD, GOLD, SILVER, and DIAMOND SHARES.

\* SHARES SOLD for the USUAL FORTNIGHTLY SETTLEMENT.

\* SHARES SOLD at SPECIAL PRICES FOR FORWARD DELIVERY (ONE, TWO, or THREE MONTHS) on DEPOSIT of TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**HOME RAILWAYS—SPECIAL BUSINESS.**—Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**AMERICAN, CANADIAN, AND FOREIGN RAILS—SPECIAL BUSINESS.** Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**BANK, OMNIBUS, TRAMWAY, GAS, WATER, and CANAL SHARES.**

BUSINESS in all the above, and fortnightly accounts opened.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**MISCELLANEOUS SHARES of all DESCRIPTIONS BOUGHT or SOLD. SPECIAL BUSINESS in:**

AQUARIUM, IRON and COAL, ELECTRIC LIGHT.

And other COMMERCIAL or INDUSTRIAL SHARES.

\* Special Business in Bryant and May (Limited).

\* SHARES SOLD for FORWARD DELIVERY (ONE, TWO, or THREE MONTHS) on DEPOSIT of TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**OPTIONS in all STOCKS and SHARES dealt in.**

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**DIAMOND SHARES OF SOUTH AFRICA.**

ADAMANT DIAMOND, FRENCH and D'ESTERRE DIAMOND.

ANGLO AFRICAN, KIMBERLEY CENTRAL, KIMBERLEY NORTH BLOCK, PICKEN DIAMOND, SCHWAB'S GULLY.

BUSINESS in the ABOVE at CLOSE MARKET PRICES for USUAL FORTNIGHTLY SETTLEMENT.

\* SHARES SOLD for FORWARD DELIVERY (ONE, TWO, or THREE MONTHS) on DEPOSIT of TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**SCHWAB'S GULLY DIAMOND SHARES.**

The quarterly dividend has just been paid at the rate of 20 per cent. per annum. This company in about three years has paid back to the shareholders in the shape of dividends about 75 per cent. of the entire capital. The shares are £10 each, fully paid, and at current price yield about 40 per cent.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**TRANSVAAL GOLD SHARES—SPECIAL BUSINESS in:**

BALKIS, GRABKOP, LISBON BERLYN, SPITZKOP.

Shares in the above Companies sold for the usual Fortnightly Settlement, or for forward delivery (one, two, or three months) on deposit of twenty per cent.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**EL CALLAO MINE (Venezuela), paying regular MONTHLY DIVIDENDS, and at present market quotations yielding about 18 per cent. per annum. SPECIAL BUSINESS in these Shares.**

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**GOLD AND SILVER MINES.—INDIAN, NORTH AMERICAN, SOUTH AMERICAN, WEST AFRICAN, SOUTH AFRICAN, and MEXICAN Mining Shares.**

BUSINESS as BUYER or SELLER in all the above.

Shares Sold for Fortnightly Account.

Share Sold for Forward Delivery (one, two, or three months) on deposit of twenty per cent.

JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER, No. 1, FINCH LANE, LONDON, E.C. ESTABLISHED 1842.

LONDON BANKERS—THE CITY BANK.

**BRITISH AND FOREIGN MINING OFFICES.**

Messrs. PETER WATSON AND CO.,  
18, AUSTIN FRIARS,  
OLD BROAD STREET, LONDON, E.C.

BANKERS: THE ALLIANCE BANK (Limited).

**Messrs. PETER WATSON AND CO.'S**  
BRITISH AND FOREIGN MONTHLY MINING NEWS—STOCK AND SHARE INVESTMENT NOTES—MINES, MINERALS, AND METAL MARKETS—SHARE LIST, No. 874, Vol. XVII., for MARCH month, will shortly be ready, and will be sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

**MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,**  
9, OLD BROAD STREET, LONDON,  
ESTABLISHED 1853.

TELEPHONE No. 1268.

Mr. ALFRED E. COOKE can SELL the following shares, or any smaller marketable number at prices affixed FREE of COMMISSION:—

50 Almada, 2s. 3d.	30 Kohinoor B, 5s. 3d.	60 Oscar, fully pd., 9s.
140 Balkis, 2s. 9d.	40 La Plata (New), 5s. 6d.	50 Potosi, 12s.
40 Bratsberg, 10s. 6d.	23 Leadhills, 21s. 6d.	50 Prince of Wales, 1s.
50 Callao Bis, 11s. 9d.	30 Lisbon-Berlyn, 4s. 3d.	30 Ruby, 1s.
50 Chile Gold, 6s. 6d.	20 Mounts Bay, 2s.	15 Schwab's Gully, £4 1/2.
50 Colomblan Hyd., 9s. 6d.	30 Mysore Gold, 25s.	40 South Kitty, 10s.
40 California Gold, 5s. 3d.	50 New Callao, 4s. 6d.	5 Tolima A, £3 10s.
20 Colorado, £2 1/2.	10 New Kitty, 20s.	30 Transvaal Gold, 4s. 6d.
20 Denver, 2s.	60 New Caradon, 1s. 3d.	25 Trevaunance, 4s. 3d.
3 East Blue Hills, 6s.	40 Nouveau Monde, 2s. 6d.	10 Utd. Mexican, £3 1/2.
25 East Wheel Rose, 5s.	100 New West Caradon, 1s.	30 Victoria Gold, 8s. 6d.
10 Ecton, 22s. 6d.	60 Nundydoo, 7s. 6d.	20 Van, 11s. 9d.
2 El Callao, £57.	50 Old Shepherds, 6s.	40 West Callao, 2s. 6d.
50 Hoover Hill, 4s. 6d.	50 Organos, 8s.	10 West Kitty, £9 1/2.
30 Home Mines Tst., 13s.	40 Orita, 20s. 6d.	20 Wheel Crebor, 18s.
60 Indian Consol., 2s. 9d.	50 Oscar, 17s. 6d. p.d., 6s. 9d.	

MANY of the ABOVE SHARES can be supplied for END of APRIL or MAY account on cash DEPOSIT of TEN PER CENT.

LARGE PROFITS.—Apply for List issued by ALFRED E. COOKE.

**OSCAR GOLD—SPECIAL BUSINESS.**  
ALFRED E. COOKE.

DAILY and WEEKLY LISTS of PRICES issued to clients on application.

ADVANCES MADE ON STOCKS AND SHARES.

Letters and Telegrams receive immediate personal attention.

ALFRED E. COOKE, 9, OLD BROAD STREET, LONDON.

ESTABLISHED 1852.

BANKERS: ROYAL EXCHANGE (Limited), London.

**MR. JAMES STOCKER, STOCKBROKER,**  
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

Has Special Business in the following for cash or settlement by arrangement free of commission:—

100 Almada, 2s. 3d.	50 East Rose, 5s.	60 Nundydoo, 7s. 6d.
75 Alankon, 1 p.d., 5s. 9d.	50 Eberhardt, 2s. 6d.	70 Old Shepherds, 6s. 3d.
100 Balkis, 2s. 9d.	100 Ecton, 22s. 6d.	80 Orita, 1s.
40 Bratsberg, 10s. 6d.	55 Frontino, 7s. 6d.	45 Organos, 7s. 9d.
60 Birdseye, 23s. 9d.	90 Glenrock, 2s. 3d.	25 Oscar Gold, 6s. 3d.
60 Cartago, 6s.	40 Great Holway, 11s.	70 Port Phillip, 2s. 3d.
100 Californian, 4s. 9d.	60 Home Mines, 12s. 9d.	40 Potosi, 12s.
80 Callao Bis, 10s. 3d.	100 Ind. Consol., 2s. 9d.	40 Panulicillo, 38s.
45 Carn Cambrone, 5s.	300 Kapanga, 6d.	80 Potosi (New), 11s. 3d.
75 Chile Gold, 6s. 6d.	50 Kohinoor B, 4s. 3d.	30 Richmond, £4 11s. 6d.
100 Chontales, 2s. 6d.	50 La Plata, 5s. 3d.	20 Ruby, 2s. 9d.
50 Colomblan, 8s. 9d.	30 Lisbon-Berlyn, 4s. 3d.	20 Schwab's Gully, £4 11s. 6d.
25 Colorado, £2.	30 La Trinidad, 2s.	80 Transvaal Gold, 4s. 3d.
70 Devala, 3s. 3d.	40 Montana, 33s.	30 Trevaunance, 41s.
100 Denver, 2s.	50 Mysore Gold, 22s. 9d.	25 Utd. Mexican, £3 1/2.
3 El Callao, £56 1/2.	65 New Callao, 4s. 6d.	50 Victoria Gold, 8s.
30 East Blue Hills, 6s. 6d.	100 Nacupai, 2s. 6d.	60 West Callao, 2s. 6d.
	75 Nouveau Monde, 2s. 3d.	

The following SHARES WANTED FOR CASH:—

100 Montana,	200 Chile,	100 Kohinoor B.
50 New Potosi,	50 Eberhardt,	50 Frontino.
Railways, Foreign Bonds, Gold and Silver Mines, Miscellaneous Shares, and all Stock Exchange Securities.		

ESTABLISHED 1851.

BANKERS: LONDON AND WESTMINSTER.

**Messrs. ENDEAN AND CO., STOCK AND SHARE DEALERS,** 65, GRABKOP STREET, LONDON, E.C.

ESTABLISHED 1842.

BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

**MR. W. TREGELLAS, 40, BISHOPSGATE STREET WITHIN, E.C.**

Deals in all descriptions of STOCKS and SHARES at close market prices.

W. TREGELLAS has special business in SANTA BARBARA and LISBON-BERLYN GOLD MINES.

**JOHN RISLEY, STOCK AND SHARE BROKER,** AND MINING SHARE DEALER, 35, CORNHILL, LONDON, E.C.

ESTABLISHED 1860.

BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

**BEAZLEY AND CO., STOCK AND SHARE DEALERS,** 6 AND 7, COLEMAN STREET, LONDON, E.C.

ESTABLISHED 25 YEARS.

Messrs. BEAZLEY and Co. have business in the following Shares at the prices quoted.

SELLERS and BUYERS should send FIRM ORDERS at once.

Buyers.	Sellers.	Buyers.	Sellers.
*Almada..... £ 0 2 0 .. £ 0 2 6	Montana..... £ 1 12 6 .. £ 1 15 0		
*Bratsberg..... 0 9 0 .. 0 10 6	Nundydoo..... 0 6 0 .. 0 7 6		
*Balkis..... 0 2 3 .. 0 2 9	*Nou. Monde..... 0 2 0 .. 0 2 6		
*Callao Bis..... 0 10 0 .. 0 11 3	*Nacupai..... 0 1 9 .. 0 2 3		
Colomblan..... 0 4 6 .. 0 5 3	*New Potosi..... 0 10 0 .. 0 12 0		
Colorado..... 2 1 3 .. 2 3 9	*New Chile..... 0 5 0 .. 0 6 6		
Cartago f.p..... 0 5 0 .. 0 6 6	New Callao..... 0 4 0 .. 0 4 6		
Denver..... 0 1 9 .. 0 2 0	New Cardn..... 0 6 0 .. 0 1 3		
Drakewalls..... 0 4 0 .. 0 5 0	N. Lang. S..... 0 1 0 .. 0 2 0		
E. Wh. Kose..... 0 4 6 .. 0 5 6	Old Shep..... 0 5 0 .. 0 6 0		
Eberhardt..... 0 1 9 .. 0 2 6	*Oscar, f.p.d..... 0 6 0 .. 0 7 0		
Ecton..... 0 1 0 .. 0 2 6	*Oscar, 17s. 6p..... 0 6 0 .. 0 7 0		
*E. B. Hills..... 0 6 0 .. 0 7 0	Oregum..... 0 2 0 .. 0 3 0		
Frontino..... 0 7 0 .. 0 8 0	Orita..... 0 19 0 .. 0 1 0 6		
H. M. Trust..... 0 12 6 .. 0 13 6	Organos..... 0 7 0 .. 0 7 9		
Hoover Hill..... 0 4 0 .. 0 4 9	*Ruby..... 0 4 0 .. 0 6 0		
Ind. Conso..... 0 2 3 .. 0 2 9	*Schwab's G..... 4 7 6 .. 4 12 6		
Kohinoor B..... 0 4 0 .. 0 5 0	Transvaal..... 0 3 6 .. 0 4 6		
Lis. Berlyn..... 0 4 0 .. 0 4 9	U. Mexican..... 3 3 9 .. 3 6 3		
La Plata..... 0 4 6 .. 0 5 6	West Callao..... 0 2 0 .. 0 2 6		
Mysore..... 1 2 6 .. 1 5 0	West Kitty..... 5 5 0 .. 5 10 0		

SHARES MARKED THUS \* SPECIALLY RECOMMENDED FOR A RISE.

**CASH PURCHASES.—SPECIAL FACILITIES for IMMEDIATE SETTLEMENT and DELIVERY of SHARES.**

Shares supplied for FORWARD DELIVERY on BEST POSSIBLE TERMS.

BEAZLEY AND CO., 6 AND 7, COLEMAN STREET, LONDON, E.C.

**METALS—FRIDAY, 4 P.M.—TIN, £77 17s. 6d. to £78 7s. 6d.; COPPER, £45 7s. 6d. to £45 15s.; IRON, 41s. 5 1/2d.**

BEAZLEY AND CO., 6 AND 7, COLEMAN STREET, LONDON, E.C.

**MR. WILLIAM H. BUMPUS, STOCK BROKER**

AND MINING SHARE DEALER,  
44, THREADNEEDLE STREET, LONDON, E.C.

[Established at this Address in 1867.]

BUSINESS transacted in ALL STOCK EXCHANGE SECURITIES, MINING and MISCELLANEOUS SHARES of every description. An INVESTMENT LIST free on application.

SPECIAL BUSINESS in the undermentioned:—

150 Almada, 2s. 3d.	200 Javali, 2s. 3d.	20 Panulicillo, £2 2s. 6d.
75 Bratsberg, 10s.	100 Kohinoor B, 4s. 6d.	25 Polbreon, 1s.
250 Balkis, 3s.	25 Killifreth, 10s. 6d.	15 Quebrada, £2 5s.
100 Callao Bis, 10s. 9d.	20 La Trinidad, £4 1/2.	10 Roman Gravels, £3 3s.
120 California, 4s. 6d.	30 Leadhills, 22s. 6d.	15 Rio Tinto, £ 0 7s. 6d.
30 Colorado, £2 1s. 3d.	150 La Plata, 5s.	20 Richmond, £3 6s. 3d.
100 Colomblan, 9s. 3d.	100 Lisbon-Berlyn, 4s. 6d.	70 Ruby (New), 6s. 3d.
200 Chontales, 3s.	70 Mysore Gold, 13s. 9d.	100 Spitzkop, 7s. 6d.
250 Devon Friend, 1s. 3d.	100 Mounts Bay, 2s.	50 South Caradon, 8s. 6d.
100 Denver, 2s. 3d.	15 Mason & Barry, £7 1/2.	15 Schwab's Gully, £4 1/2.
20 Devon Consols, 31s. 3d.	50 Montana, 36s.	4 Trevaunance, 42s. 6d.
100 Devala Moyer, 3s. 9d.	35 Marke Valley, 6s. 6d.	2 Tharsis, 2s.
2 Dolcoath, 1s.	50 New Caradon, 1s.	150 Transvaal, 4s. 6d.
150 Eberhardt, 3s.	100 Nundydoo, 8s.	25 Utd. Mexican, £3 1/2.
25 Ecton, 23s. 9d.	200 Nacupai, 2s. 6d.	120 Victoria Gold, 9s. 3d.
100 East Blue Hills, 6s. 6d.	75 Nine Roofs, 3s. 6d.	5 Wh. Grenville, £8 1/2.
50 Frontino, 5s. 6d.	100 New Potosi, 11s. 6d.	50 West Polbreon, 1s.
15 Great Lacey, £29 1/2.	100 New Chile, 6s. 6d.	100 Wheel Crebor, 18s.
200 Glenrock, 2s. 6d.	70 New Emma, 5s.	10 West Kitty, £9 1/2.
100 Home Mines Trust, 14s.	200 Nouveau Monde, 2s. 6d.	5 Wheel Agar, 1s.
150 Hoover Hill, 4s. 3d.	100 Oscar, 7s. 6d.	50 West Godolphin, 21s.
250 Indian Cons., 3s.	30 Orita, 1s.	20 West Phoenix, 2s. 6d.
	70 Organos, 8s.	

Where prices are not inserted offers may be made.

\* The present is a most favourable opportunity for investing in SOUND MINING SECURITIES, a judicious purchase of which at the low prices now ruling will, in all probability, result in large profits within the next few months.

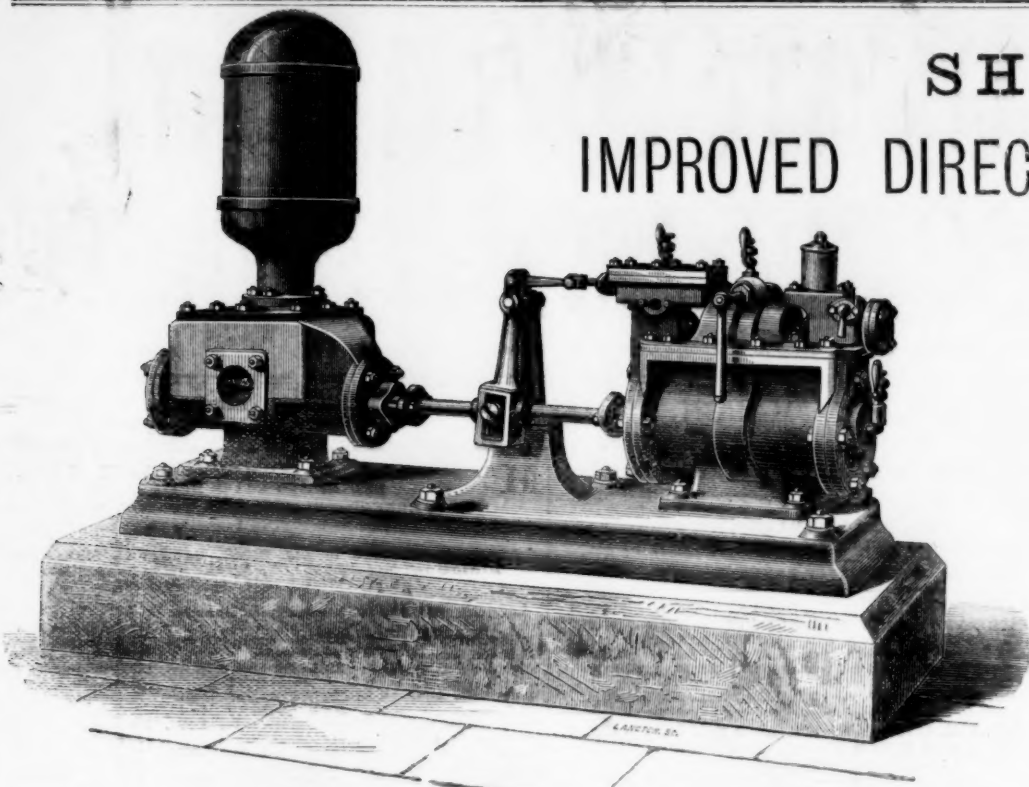
WHEEL GRENVILLE and WEST GODOLPHIN shares should be bought at once.

Mr. BUMPUS devotes SPECIAL ATTENTION to LEGITIMATE MINES, and is in a position to afford reliable information and advice to intending investors, and others in the selection of Shares either for INVESTMENT or SPECULATION. Correspondence invited.

ESTABLISHED 1867.

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## SHANKS'S IMPROVED DIRECT-ACTING STEAM PUMP.

OR

MINING, DRAINING, IRRIGATING, AND  
PUMPING PURPOSES GENERALLY.

These Pumps possess advantages over all Direct-Acting Pumps. The utmost regularity in reversing, and steadiness in working is so thoroughly secured that a piston speed of 8 ft. per minute has been obtained.

COMPOUND STEAM PUMPS, AND ALL KINDS OF PUMPING  
AND HOISTING MACHINERY ESTIMATED FOR.

ALEXANDER SHANKS & SON,  
DENS IRONWORKS, ARBROATH, AND 27, LEADENHALL STREET, LONDON.

# BELL'S ASBESTOS.

BELL'S PATENT ASBESTOS BLOCK PACKING for High Pressure Engines.  
The following testimonials refer to this Packing:—

Mona Lodge, Amlwch, Anglesey.

2nd August, 1884.

DEAR SIR,—I have much pleasure in tendering your note. Bad times in mining have compelled me to try all kinds of expedients in order to effect saving; some have succeeded and some have failed, but my underground manager, Capt. Hughes, has just said to me by the telephone—“The Asbestos Packing is the best thing ever brought here.” It saves money and trouble, but like my gas purifying oxide it lasts so long that you must not expect another order from me for twelve months at least.

Yours truly,

T. F. EVANS,

Late H.M. Inspector of Metalliferous Mines,  
Manchester, Sheffield, and Lincolnshire Railway—Steamship Department,  
Grimsby, April 10th, 1884.

DEAR SIR,—I have much pleasure in stating that after a trial of over nine months, and comparing it with other packings, I can confidently recommend your Asbestos Packing. It is especially valuable when high pressures are employed, as in cases where other packings have perished, owing to high temperatures, your packing has invariably stood well. I have also used it with complete success when a gland has heated with other packings, and also in cases of badly scored piston rods. I consider the results I have obtained by its use for our marine engines to have been in every way highly satisfactory.

Yours truly,

G. H. CLARKE, Sup. Engineer.

Department of the Director of Navy Contracts,

Admiralty, Whitehall, 20th June, 1884.

SIR,—I have to inform you that your tender for Bell's Rolled Cloth Asbestos Packing to sample submitted:—Elastic core ... .. Square.

To Mr. John Bell.

JOHN COLLETT, Director of Navy Contracts.

BELL'S ASBESTOS BOILER PRESERVATIVE.—This useful mixture by absorbing the free oxygen that is in the water entirely checks pitting and corrosion. It also disintegrates incrustation so immediately as to prevent its adhering to the plates. Not only is a great economy of fuel effected by keeping boilers clean, but the risk of having the plates burned is thereby obviated. It has been computed that  $\frac{1}{4}$  in. thick of incrustation causes a waste of 15 per cent. of coal;  $\frac{1}{2}$  in., 60 per cent.;  $\frac{3}{4}$  in., 150 per cent.

Thus the Preservative avoids the great risks which are inseparable from scaled plates, lengthens the life of a boiler, and covers its own cost a hundredfold by economy of fuel.

It is entirely harmless, and has no injurious action on metals. It can be put into the feed tank or boiler, as may be most convenient.

Sold in drums and casks bearing the Trade Mark, without which none is genuine.

BELL'S ASBESTOS YARN and SOAPSTONE PACKING for Locomotives and all Stationary Engines running at very high speed with intense friction.

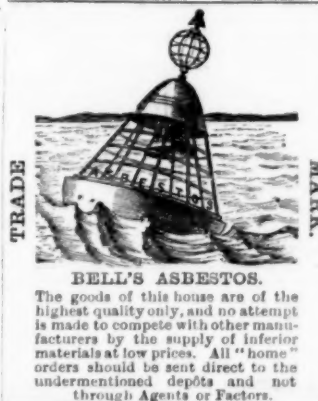
Sandwell Park Colliery, Smethwick, 1st February, 1884.

DEAR SIR,—I have much pleasure in stating that I have used your Asbestos Packing for the last 13 months for our large winding engines which are running night and day, and also for the fan, pumping, and hauling engines at the above Colliery, and during that period we have not used more than one-third the Packing we had formerly; and this I attribute to your Packing on account of its great durability and general excellence of quality.

I am, dear Sir,

Yours faithfully,

THOMAS WINTER, Colliery Engineer.



The goods of this house are of the highest quality only, and no attempt is made to compete with other manufacturers by the supply of inferior materials at low prices. All “home” orders should be sent direct to the undermentioned depots, and not through Agents or Factors.

## ASBESTOLINE

—THE BEST LUBRICANT FOR ALL KINDS OF  
MACHINERY ASHORE OR AFLOAT.

2/3 Per lb.

1 LB. EQUAL TO 2 GALLONS OF BEST OIL.

BELL'S ASBESTOS BOILER AND PIPE COVERING COMPOSITION, for coating every class of steam pipes and boilers, non-combustible and easily applied when steam is up; adheres to metals and preserves them from rust; prevents the unequal expansion and contraction of boilers exposed to weather; covers 50 per cent. more surface than any other coating, and is absolutely indestructible. It can be stripped off after many years' use, mixed up with 20 per cent. of fresh, and applied again. The composition is supplied dry, and is only to be mixed with water to the consistency required for use.

A Horizontal Boiler, 17 ft. 6 in. long, 15-H.P., gave the following results:—  
Temperature on Plates - - - 180 deg.  
Covering - - - 94 deg.

One ton of coal was saved per week, and although the fire was raked out every evening, 20 lbs. of steam were found in the boiler next morning.

The following Testimonials refer to this Covering:—

DEAR SIR,—It may interest you to know that we save exactly 40 per cent. in fuel through using your covering.

Yours truly, W. SANTO CRIME, C.E., F.G.S.  
The Tamar and Kit Hill Granite Company (Limited),  
Gunnislake, Tavistock, 8th April, 1884.

Mr. John Bell, Southwark, S.E.  
SIR,—I have much pleasure in stating that the Asbestos covering applied by you to the boiler of our travelling crane at Kit Hill has yielded most remarkable results. Since it has been in use we have saved fully half our coals, and have effected a great saving in the time it takes to get up steam, which is often a matter of great importance to us. I should add that the crane runs on high gantries, and is fully exposed to all weather. I have formed the highest opinion of your Asbestos as used for this purpose, and as you are aware, have had another boiler similarly covered, though it has not since been used. I can most strongly recommend the material.

I am, Sir, yours faithfully, W. J. CHALK, Assoc. M. Inst. C.E., Engineer and Manager.

BELL'S ASBESTOS and INDIA-RUBBER WOVEN TAPE and SHEETING for making every class of Steam and Water Joints. It can be bent by hand to the form required without puckering, and is especially useful in making joints of manhole and mudhole doors. It is kept in stock in rolls of 10 ft., from  $\frac{1}{4}$  in. to 3 in. wide, and any thickness from  $\frac{1}{16}$  in. upwards. Manhole covers can be lifted many times before the renewal of the jointing material is necessary.

The same material is made up into sheets about 40 in. square, and each sheet bears the Trade Mark, without which none is genuine. It is very necessary to guard against imitations of this useful material, and to secure themselves against being supplied with these inferior articles at my price, users are recommended to see that every 10 ft. length of the Asbestos Tape purchased by them bears the Trade Mark.

BELL'S SPECIAL LONDON-MADE ASBESTOS MILLBOARD, for Dry Steam Joints, made of the best Asbestos fibre, is well-known for its toughness and purity, and is absolutely free from the injurious ingredients frequently used to attain an appearance of finish, regardless of the real utility of the material.

Made in sheets measuring about 40 in. square, from 1-8th in. to 1 in., and 5 millimetres to 25 millimetres thick. Each sheet bears the Trade Mark.

The following copy of acceptance of tender refers to above:—

Department of the Director of Navy Contracts.  
Admiralty, Whitehall, S.W., 17th May, 1884.

SIR,—I have to inform you that your tender for Asbestos Millboard has been accepted.—Mr. John Bell. JOHN COLLETT, Director of Navy Contracts.

BELL'S ASBESTOS EXPANSION SHEETING (PATENT).—This sheeting is another combination of Asbestos with India-rubber, giving the steam user the special advantages of both materials. The India-rubber Water is protected from the action of heat and grease by an outer coating of vulcanized Asbestos cloth, thus producing an excellent joint where expansion and contraction render other materials unserviceable. This material is admirably suited to steam pipe joints and every class of valve. Valves made of this material are very durable as they are not subject to injury by oil.

# BELL'S "ASBESTOS LUBRICANT"

ILLUSTRATED PRICED CATALOGUE FREE ON APPLICATION TO

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OR THE DEPOTS—118a, SOUTHWARK STREET, S.E.,

Victoria Buildings, Deansgate, MANCHESTER.

11 and 13, St. Vincent Place, GLASGOW.

46, James Street, Bute Docks, CARDIFF.

21, Ritter Strasse, BERLIN.

### Advantages in

Simplicity of Construction, Speed in Fixing; Half Slaters saved; Half Timbers and Rafters saved.—NO BATTENS REQUIRED. Perfect Steamtight. Facilitating repairs.—NO SKILLED LABOR.

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APPLY AT THE OFFICES OF THE COMPANY.

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Great Rapidity of Construction. WIND, Frost and Smuts EXCLUDED. NO DRIP possible. No Painting or Re-painting. GREAT SECURITY IN STORMS.

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1880.  
HIGHEST  
AWARD.

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SAFETY FUSE MAKERS.

WORKS:

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SAFETY FUSE OF ALL DESCRIPTIONS SUPPLIED IN ANY LENGTH REQUIRED.

Original Inventors  
of  
Guttapercha Fuses.

Brunton's  
Taped Guttapercha  
Safety Fuse is  
the Best Fuse for  
use with Dynamite  
in wet ground.  
Fits the  
Detonator without  
unlapping.



# R. HUDSON'S Patent Steel Trucks, Points and Crossings, PORTABLE RAILWAY, STEEL BUCKETS, &c., &c.

**GILDERSOME FOUNDRY, NEAR LEEDS.**

(Near Gildersome Station, Great Northern Railway Main Line, Bradford to Wakefield and London, via Laisterdyke and Ardsley Junctions.)  
TELEPHONE No. 14, LEEDS EXCHANGES.

17.—SELF-CONTAINED TURNTABLE,  
Requiring no Foundation.



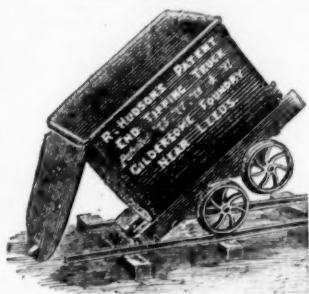
Upwards of 25,000 of these Trucks and Wagons have been supplied to the South African Diamond Mines; American, Spanish, Indian, and Welsh Gold, Silver, Copper, and Lead Mines; Indian and Brazilian Railways, and to Railway Contractors, Chemical Works, Brick Works, and Coal and Mineral Shippers, &c., &c., and can be made to lift off the Mines in this country, and are the **LIGHTEST, STRONGEST**, and most **CAPACIOUS** made, infinitely stronger and lighter than wooden ones, and are all fitted with R. H.'s Patent "Rim" round top of wagons, requiring no rivets, and giving immense strength and rigidity. End and body plates are also joined on R. H.'s patent method, dispensing with angle-irons or corner plates.

Patented in Europe, America, Australia, India, and British South Africa,  
1875, 1877, 1878, 1881, and 1883. N.B.—The American, Australian, Indian, and Spanish Patents on Sale.

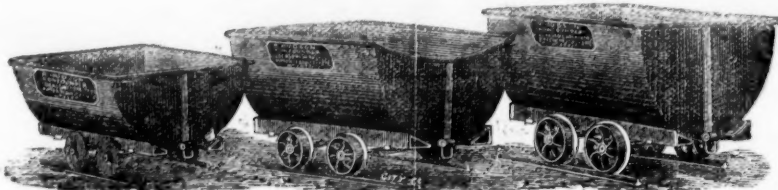
Registered  
Telegraphic Address:—  
"GILDERSOME,  
LEEDS."  
A. B. C. Code used.

**CAN BE MADE TO ANY SIZE, AND TO ANY GAUGE OF RAILS.**

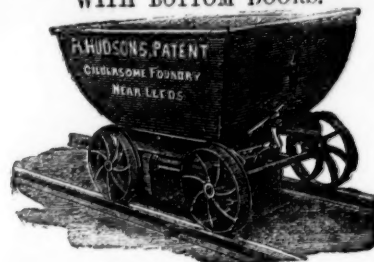
1.—PATENT STEEL END  
TIP WAGONS.



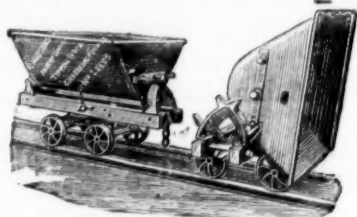
7.—PATENT STEEL MINING WAGONS.



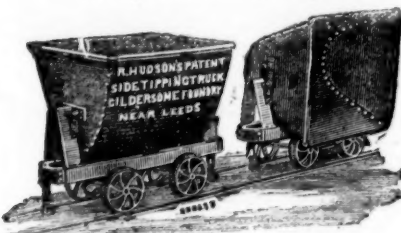
12.—PATENT STEEL HOPPER WAGON,  
WITH BOTTOM DOORS.



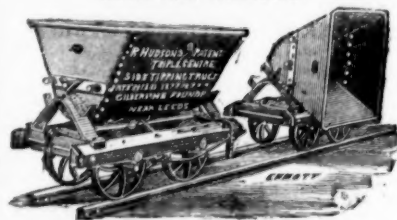
2. PATENT UNIVERSAL TRIPLE-CENTRE  
STEEL TIPPING TRUCK,  
Will tip either SIDE or either END of rails.



8.—PATENT DOUBLE-CENTRE STEEL  
SIDE TIP WAGONS,  
Will tip either side of Wagons.



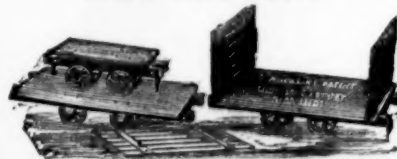
3.—PATENT TRIPLE-CENTRE STEEL  
SIDE TIP WAGONS.



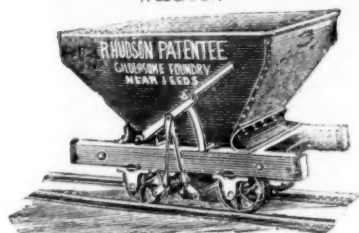
18.—"AERIAL" STEEL WINDING  
TUB.



4.—PATENT STEEL PLATFORM OR  
SUGAR CANE WAGON.



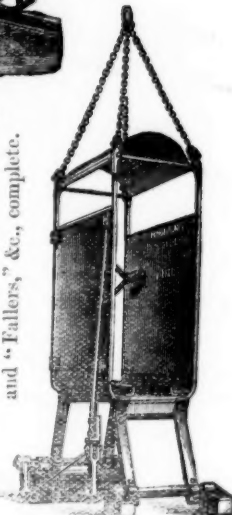
13.—PATENT STEEL HOPPER  
WAGON.



19.—PATENT STEEL CHARGING  
BARROW.  
DOUBLE the STRENGTH and much LIGHTER than  
ordinary Barrows.



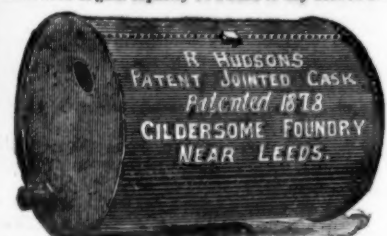
15.—R. Hudson's Patent Steel Cage  
and "Fallers," &c., complete.



14.—SELF-RIGHTING S  
TIP BUCKET.  
(The "CATCH" can also be made SELF-  
ACTING if desired.)



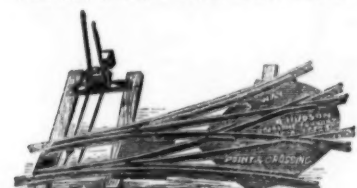
5.—PATENT STEEL CASK.  
As supplied to H.M. War Office for the late war in Egypt.  
DOUBLE the STRENGTH of ordinary Casks without any  
INCREASE in weight.  
(Made from 10 gals. capacity UPWARDS to any desired size.)



10.—LEFT-HAND STEEL POINT  
AND CROSSING.



11.—RIGHT AND LEFT-HAND  
STEEL POINT AND CROSSING.

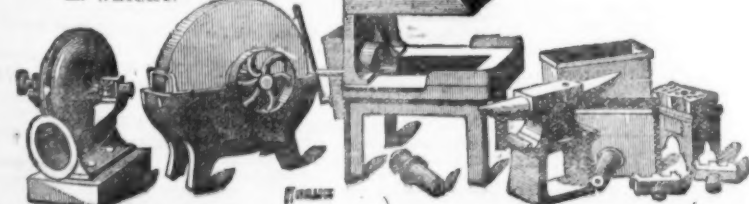


16.—PATENT STEEL WHEELBARROWS.  
Made to any Size.  
Lightest and Strongest in the Market.

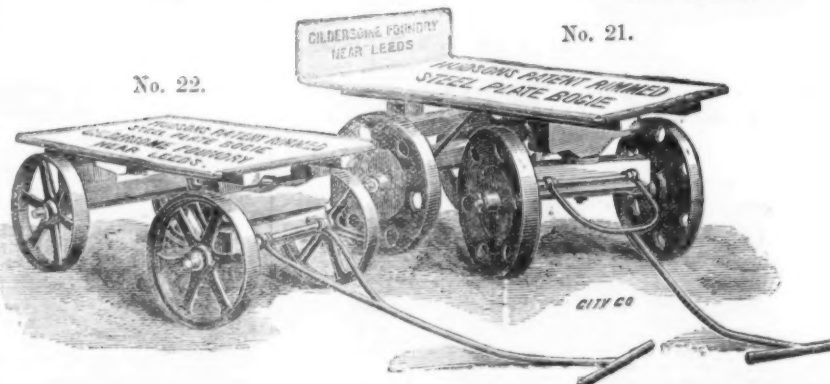


6.—ROBERT HUDSON'S  
PATENT IMPROVED IRON SMITH'S HEARTH,  
NO BRICKWORK REQUIRED.

A Special quality made almost entirely  
in STEEL, effecting a GREAT SAVING  
IN WEIGHT.



Large numbers in use by all the principal Engineers in this  
country and abroad.



ALL KINDS OF BOLTS, NUTS AND RIVETS MADE TO ORDER ON THE PREMISES.



Pumping Engines  
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Sewage Works,  
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General Purposes.  
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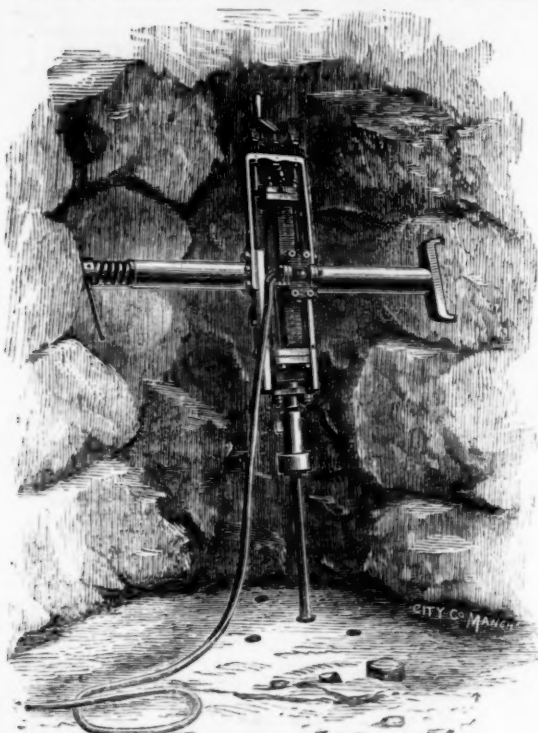
# PUMPING & MINING MACHINERY. HATHORN, DAVEY, & CO., LEEDS.

Hydraulic Pumps,  
Winding Engines,  
Air Compressors,  
Man Engines,  
Capstans,  
&c., &c.  
APPLICATION.

FIRST SILVER MEDAL, ROYAL CORNWALL POLYTECHNIC  
—Highest Award for Effectiveness in Boring, and Economy in  
the Consumption of Air.

JUBILEE EXHIBITION, 1882.  
THE PATENT

## "CORNISH" ROCK DRILL.



FIRST SILVER MEDAL AWARDED AT BORING COMPETITION, DOLCOATH MINE, 1881.

The "CORNISH" ROCK DRILL and "CORNISH" COMPRESSOR

Are now largely in use, and in every case are giving entire satisfaction.

For Testimonials, Illustrated Catalogues and prices, apply to—

**HOLMAN BROTHERS,**  
CAMBORNE FOUNDRY,

MAKERS OF  
MICHELL & TREGONING'S PATENT PULVERISER, and HOLMAN'S  
IMPROVED STEAM or AIR PUMPING and WINDING ENGINE  
for Underground Quarries or Shallow Mining. Indispensable for  
Shaft Sinking with Rock Drills. Also makers of all kinds of  
MINING MACHINERY at

THE CAMBORNE FOUNDRY AND ENGINE WORKS,  
CAMBORNE, CORNWALL.

## THE PATENT "ECLIPSE" ROCK-DRILL

AND  
"RELIAANCE AIR-COMPRESSOR."

First Silver Medal awarded at Boring Competition, East Pool Mine, Sept. 1883.

SILVER MEDAL—PARIS, 1878—  
HIGHEST AWARD



Are NOW SUPPLIED to the  
ENGLISH, FOREIGN, and  
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MENTS, and are also IN USE  
in a number of the largest  
MINES, RAILWAYS, QUAR-  
RIES, and HARBOUR  
WORKS in GREAT BRITAIN  
and ABROAD.

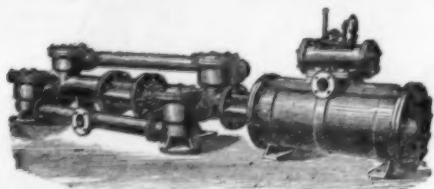
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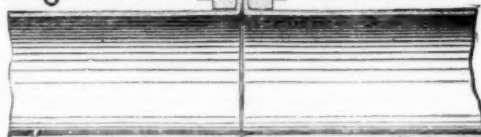
BERGRATH Dr. v. GRODDECK.

## IMPROVED PATENT INGERSOLL ROCK DRILL MEDALS AND HIGHEST AWARDS.

American Institute, 1872.  
American Institute, 1873.  
London International Exhibition, 1874.  
Manchester Scientific Society, 1875.  
Exhibition 1875.  
Royal Cornwall Polytechnic, 1875.

Rio de Janeiro Exhibition, 1875.  
Australia Brisbane Exhibition, 1876.  
Philadelphia Exhibition, 1876.  
Royal Cornwall Polytechnic, 1877.  
Mining Institute of Cornwall, 1877.  
Paris Exhibition, 1878.

## Wrought-Iron Steam Tubes.



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TUBES FOR BOILERS, PERKINS'S, and other HOT-WATER SYSTEMS.

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These Stamps are now working on the "Owen Vean" Mine, near Marazion,  
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from 80 to 90 tons of tin stone, ordinary hardness, in 24 hours. The consumption  
of fuel is much less per ton of stone stamped than by the old system, and the  
wear and tear also much less. See Mr. Derry's paper (extract of which ap-  
peared in the *Mining Journal* of Nov. 1st, 1884) on these stamps read before the  
Mining Institute of Cornwall.

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IN GOOD CONDITION, AT MODERATE PRICES—viz,  
PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES,  
STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of  
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Complete Rock Boring Plants of the most  
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Quarries, Shaft Sinking, Level Driving,  
Stoping, and Submarine Blasting.

## All Kinds of Mining Machinery.

ESTIMATES AND FULL PARTICULARS ON APPLICATION.

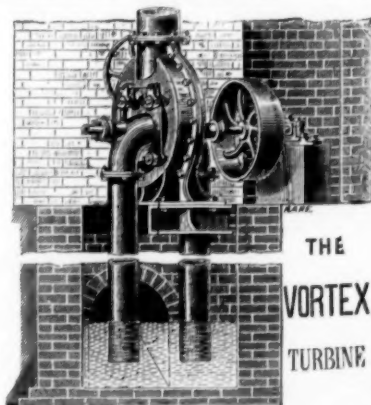
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THE  
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A most efficient means of applying Water Power to all kinds of  
Machinery.

Largely used in DRIVING AIR COMPRESSORS, PUMPING,  
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Successfully used in ELECTRIC LIGHTING, and in utilizing  
DISTANT WATER POWER by means of ELECTRICITY.

A Pamphlet containing a full description of the Vortex, with  
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HALF-PRICE—ONE SHILLING POST FREE.

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To which is added the SMELTING TERMS used in FRANCE, SPAIN,  
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## Original Correspondence.

## THE ECONOMICAL CONCENTRATION OF COPPER ORE.

SIR.—Your correspondent, Mr. Masey, does not, I think, quite hit the right nail when he speaks of how to make a copper mine pay in Cornwall. It has been proved that the average miner can turn out as much stuff with his pick as the rock-drill. I know very little of mining, but it strikes me that having an office in London, and a managing director at a heavy salary, who never goes to the mine, and several directors also with large salaries, secretaries and expensive offices are not required. Also, why have three or four captains and a purser? This latter a very useless article; he does nothing but receive the money for wages, and pay same, and, no doubt, looks after himself in giving the merchants orders. My opinion, to make mining pay, is to get rid of all the above. Place a man you can trust as manager at the mine, let him pay wages and keep the books at the mine. Employ a captain you can trust, not one who is under the thumb of the purser. I venture to think that there are very few mines in Devon or Cornwall if there is any copper or tin in them but what will well repay shareholders if the present cliques could be broken up. I have had a circular sent me this morning of a little mine that has been killed by expensive London management. In the circular it is proposed to resuscitate the mine, but one stipulation by the lords was that a certain person be the purser. I consider this monstrous, and so long as the present system is continued I would advise the public to have nothing to do with Devon or Cornish mining.

March 25.

## MODERN v. ANTIQUATED MINING.

SIR.—I intimated in my last that a better discipline in the management of metallic mines is very much to be desired, inasmuch as a great many hold positions by interest, and not a few by protection, who are deficient in both practical and theoretical mining, and consequently are causing great waste of money and loss of life, and it will be a happy relief both to the employer and employed when they are swept away, and in lieu thereof a staff of officers duly certificated for their various duties, similar to the officers on board ship. If this was carried into effect mining work would be executed more efficiently, and the repugnance so prevalent to modern appliances would in a great measure be removed, because it arises to a very large extent from their inability to apply them efficiently. In fact, I have seen some of the best inventions, particularly the Marsden stone-breaker and automatic jigger, so applied as to cause them to be pronounced useless and even to be laid aside, and that in the centre of a large mining district where everyone was waiting to see how it answered before purchasing for themselves, and, of course, seeing it laid aside or giving bad results, they naturally and wisely, as they think, decline to waste their money in a similar way; thus bringing opprobrium on the greatest inventions ever brought to bear on mining, and preventing those who have invested their money from getting the benefit of them; and these gentlemen, if asked by the shareholders why the mines do not pay, attribute it to the low price of metal and the great outlay they have been making in machinery and trying experiments. Mine managers when they get in power, like all others, are liable to abuse that power, and not a few are very ambitious to distinguish themselves as mechanical engineers, while their training has been that of a miner or behind a counter of some sort, and owe their position to the good graces of an influential friend, or the finding of a nugget, which by some kind oflegerdemain, never yet clearly defined by our philosophers, brings with it momentarily all the qualifications of a mining and mechanical engineer, regardless of the humble station he may have previously occupied. In order to prevent this in the future it would be advisable for the manufacturers to send their own men to erect their machinery, which would defend themselves as well as their customers against such anarchy.

Much has been said for and against Limited Liability and Cost-book Companies; but no one can logically deny, I think, that the former is the most suitable for a public company, inasmuch as it matters not how distant an investor may be from the property he has the consolation of knowing his liability, and this undoubtedly is a very great inducement to large capitalists especially to come in, whereas they are scared away from the Cost-book companies by the small capitalist, and their probable inability to pay their share of the cost which, of course, in such cases falls on those who are able to pay, and as regards raising capital for mining or anything else the Limited Liability is undoubtedly the best; but it has no doubt been abused by unreasonable sums of promotion, and in some instances by a less simple mode of management, and especially when the directorate consists chiefly of a board of military men they are liable to entwine it with too much red tape, and probably the greatest objection to it is when the board take it upon themselves to manage the mine altogether through an executive, giving him no discretionary power, and this form where mines are at a great distance especially from the directorate is the worst of all in existence, as it generally takes a month or more to communicate with the board and get an answer from them by post, and, without any exception to my knowledge, it has proved disastrous, and in many instances, as in the case of the Huntington Copper and Sulphur Company, hundreds of thousands of pounds have been squandered to no purpose. This, of course, is no fault in the form of the company; it is simply the abuse of it, and when a directorate unacquainted with mining is guided by a practical mining engineer—not mechanical engineers—who would never think of tying the hands of the executive, excepting so far as financial arrangements went the Limited Liability is preferable to the Cost-book in every respect, because, besides its commanding a larger capital, it has the great advantage of being represented by an influential body of gentlemen who are co-partners with the shareholders, and in whom it is natural they should have more confidence than in two paid officials—the manager and purser—in the Cost-book companies. Though up to the present time, on the whole, the management in the latter companies has been more satisfactory, and especially when the manager has been a thorough practical man, because he has the sole command of the ship, as it were, and its progress has been far more rapid than when the directors are each taking their turn at the helm. As a rule, they occupy too much of the executive's time in submitting to them too many details, which, after all, are very difficult for them to understand, and tend greatly to retard the work. This, I am aware, is done with the best intention for the welfare of the company; but it sometimes happens that too many cooks spoil the broth. In one case that came under my notice the directors were so voracious for details from the mines that they sent a newspaper correspondent, thinking he would be a great assistance to the manager; but he found it took him longer to dictate the long reports than it did to write them himself, and a great many make similar mistakes, imagining that the executive has nothing to do but communicate every little detail, whereas he ought to be busily occupied otherwise from morn till night, and will often get a night shift into the bargain.

As regards the great failing off of copper in Cornwall it is to be seriously regretted for the county at large; but I think it is to be attributed in a great measure to the unsystematic manner in which new deposits have been sought. When new mining sites have been taken up there, consisting generally of 100 or 200 acres, more or less, they have been prospected, and whenever a lode has been discovered, however unpromising, massive buildings, such as referred to in my last, have been erected to receive the unwieldy machinery, and development work proceeded with, to be shortly afterwards abandoned, leaving the buildings as monuments of the failure; and hence we see so many abandoned engine-houses scattered there. But there is still an abundance of untried ground, and if the money expended in one of these failures had been applied to prospect more virgin ground the chance of finding productive veins would have been far greater. It is a household saying in Cornwall that a good gossan rides a good horse, and the prospecting should be extended until some good gossan backs are found, and then, instead of erecting massive machinery, portable engines should be used to test them a certain depth before permanent machinery is decided on. For instance, a small portable

pumping and winding engine could be used to develop it 68 or 80 fathoms deep, where at least some further indications of it not a rich deposit might be expected. Most of the good deposits have been found at a less depth, and even near the surface, and should it prove a failure there would be no massive buildings to leave behind to commemorate the stupidity of their construction, and in case it proved a success the portable engine could remain as a hoisting or winding engine, and a pumping engine added to work the pumps. I have not the least doubt that a judicious selection of veins in this way would restore Cornwall to its former prestige as a copper producer.

MECHANICAL MINER.

## HYDRAULIC PUMPING-ENGINES.

SIR.—The hydraulic engine illustrated in your Journal of the 21st is essentially similar in mechanical action and arrangement to the hydraulic engine by Darlington, of which two views are given in "Records of Mining and Metallurgy," by Phillips and Darlington, published by Spon in 1857. The only difference lies in two small details—1. Darlington did not place an air vessel in connection with his engine, believing that it would not receive the necessary care and attention underground to be permanently efficient. 2. He employed a simple cantilever instead of a sliding loop and crank for shifting the auxiliary pistons in connection with the differential valve cylinder. The Darlington engine consisted of a main pumping cylinder, a differential cylinder fitted with differential pistons, and an auxiliary cylinder with two balanced pistons outside of the differential cylinder. The water from the pressure column was admitted to the pumping cylinders by passing through the differential cylinder between the differential pistons, and was exhausted from the pumping cylinder by passing underneath the smaller of the two differential pistons. Sluice valves regulated the passage of the water to and from the main cylinder. In order to effect the valvular movement of the differential pistons water was admitted to and exhausted from the upper side of the large differential pistons by a small pair of balanced pistons in connection with the pressure column and differential cylinder. This type of the Darlington hydraulic engine was erected at the Alport Mines in Derbyshire, and at Frongoch and Cwmystwith Mines, Cardiganshire, in and about the year 1844, and at the Minera Mines, Denbighshire, in 1864.

## SHROPSHIRE LEAD MINES.

SIR.—The old Bog Mine, one of the Tankerville Great Consols Company's amalgamated mines, is generally reported by the agents and men to be looking splendidly in the very bottom. During the last workings this celebrated old mine produced well of lead ore and blende, and so did the Pennerley Mine do well in the last workings, and the Tankerville Mine proper was expected to show again its vast riches when the junction was reached by a little deeper sinking; and with the powerful and modern plant all ready fixed, these mines ought to command attention.

The surveyors are at work on the proposed route of the extension of the Snailbeach District Tramway to the south-east side of the Stiperstones Hills, and we hope the Marquis of Bath, the Earl of Tankerville, and Mr. R. J. More, who have so largely benefited by the mines in good times, will do all they can to find some kind of labour on their estates for the miners here, many of whom and their families are in a starving condition, and every day finds them worse off. Let something be done as quickly as possible, for the case is urgent.

MINER.

## TWO NEW GAS FURNACES.

A monthly meeting of the South Staffordshire Institute of Iron and Steel Works' Managers took place at Dudley on Saturday night. Mr. W. J. Hudson (the President) occupying the chair. Mr. W. FARNWORTH, the manager of the Swindon Ironworks, Dudley, read a valuable paper "On Gas Furnaces." He said: The point aimed at by each of the differently constructed furnaces was to obtain complete combustion, or, in other words, to get as much heat as possible out of the fuel used, and sometimes to promote the use of a less expensive quality of fuel, and so become more economical. After touching upon the well-known Siemens-Martin, Bicherou, and Ponsard and other furnaces, Mr. Farnworth then directed attention to two furnaces which are being worked at Messrs. E. P. and W. Baldwin's, Wilden, Swindon, and Wolverhampton Ironworks. The first, he said, had been patented by Mr. Felton, and was used in the sheet and tin-plate mills. It had no grate bars, but the fuel was placed in a chamber with a hanging bridge, whose object was to cut off the passage of the air through the outer firing door, and let the fuel remain behind and become partially decomposed before being moved into more immediate contact with the pressure of the air formed by means of steam jets. The furnace was not intended for any intense heats, but for a steady, clear, softening flame. The second was a furnace, patented by Mr. Felton himself, in which bars were used, and the air was mixed more thoroughly with the gas than in the former case. This was done by means of apertures formed at the top of the furnace, &c., and besides this different arrangements were made for retaining the fall whilst the ashes were being removed. More facilities were given for this removal by clinkers, and the result was a greater heat. The furnace was used for puddling and for ball furnaces, or heating furnaces, with great saving of fuel, and enabled more work to be done in a given time. Mr. G. B. Wright enquired why it was that the high temperature of the gases was of so much importance? Mr. R. Edwards wished for information upon the construction of the furnaces. For instance, were the bars placed in a horizontal or a slanting position? Mr. M. Millard was anxious about the cost of the erection of Mr. Farnworth's furnaces, the cost of working, the wear and tear expenses, the saving of fuel, and the iron that it had spoiled during the past 12 months? (Laughter.) He believed that gas furnaces would play a most important part in the manufacture of iron and steel in the future, but he thought the best furnace had not been invented yet. Mr. Farnworth replied that when the gases expanded they became more easily incorporated with the oxygen and more readily burnt. In the case of his furnace the heat was obtained hotter and readier than was needed, consequently there was no loss in the shape of waste gases. The bars of the furnace were placed horizontally—on a level with the floor. There were clearing out bars on each side. The grate was not more than 12 in. high, and a very little pressure of steam from the jet forced the air underneath, and, of course, formed a continuous combustion. His manager had informed him that the quantity of iron heated at a turn was 8 tons, and the quantity puddled in six turns 11 tons 2 qrs. 12 lbs. The quantity of slack used for the heating furnace was 5 cwt. 2 qrs., and 19 cwt. were required for the puddling furnace. The furnaces began working in October, 1883, and up to that night the 4½ crown of the grate for that part had been reduced half an inch, while during the same time four new 9-in. crowns had been put on the puddling chamber. The grate bars were cast together with a ½ in. space between, so that the refuse was riddled to fine dust. The principal feature in his furnace was that the flame could be stopped at any time it was required. Consequently the work could be carried on with the greatest economy. The advantage of his own furnace over the Felton was in better mixing of the air with the gas.—Mr. Millard considered that Mr. Farnworth's furnace was worked on the principle of "robbing Peter to pay Paul," since in bringing the air from the pipes and along the sides of the producer, he was absorbing heat and making his furnace radiate more heat than was necessary; and Mr. Farnworth replied that in the Siemens furnace the same thing was done.—Mr. Prest asked whether the air in the Ponsard furnace was drawn or forced?—Mr. Farnworth replied that it was not forced.—On the motion of Mr. G. B. Wright a hearty vote of thanks was accorded to Mr. Farnworth for his paper, which was ordered to be printed. The members shortly afterwards dispersed.

THE directors of the New Civil Service Co-operation (Limited) state that, subject to the audit of the accounts, a dividend will be declared at the forthcoming meeting at the rate of 10 per cent. per annum for the six months ending 28th ult.

## VICTORIA GOLD MINING.

At the late half-yearly meeting of the Lone Hand Company, Creswick, the report showed that 17,492 ozs. of gold had been produced during the last half-year, and 42,000/., or 3/ 10s. per share, paid in dividends. To show the value of Australian mines for investment of English capital, here is a dividend mine, according to late market rates, standing at a little over one year's purchase. The alluvial mines in the Creswick district are keeping up their good average yields of gold. For the week ending January 31st the yields were as follows:—

Lone Hand Company	730	ozs.	10	dwt.
Loughlin Company	110	"	7	"
Madame Berry Company	800	"	2	"
New Australasian Company	291	"	17	"
Ristori West Company	346	"	11	"
Other companies	270	"	11	"

Totals ..... 2549 ozs. 18 dwt.

Ballarat mines giving over 100 ozs. of gold for the week were Band and Albion Company, 380 ozs. 8 dwt.; Bute and Downs, 133 ozs. 18 dwt.; Egerton Company, 121 ozs.; Golden Stream, 312 ozs. 3 dwt.; New Kong Meng, 239 ozs. 14 dwt.; Reform, 120 ozs. 4 dwt.; New North Clunes, 155 ozs. 10 dwt.; South Clunes, 204 ozs. 4 dwt.; other companies, 726 ozs. 12 dwt.; making a total for the week of 2390 ozs. 13 dwt. The Sandhurst mines returns for the week in gold and amalgam were 6284 ozs. 11 dwt. Dividends from four companies, 4844/ 10s.—Maldon Mines: Exhibition No. 1 from amalgam, 829 ozs.; South Exhibition amalgam, 582 ozs.; dividend, 1s. 6d. per share.—Gippsland Mines: Long Tunnel Extended, 875 tons stone; yield, 1307 ozs. gold. Long Tunnel, Walhalla (month), 1400 ozs. 5 dwt. gold. Other miscellaneous mines quoted at 570 ozs. Reports of progressive works and new discoveries are very encouraging. The yield of gold from Queen's Birthday, Malmsbury, is 518 ozs. Considerable attention is also being given to the mines on the Day's High plains on the Australian Alps. From the large number of progressive mines now in operation there is likely to be a large increase in the supply of gold this year.

## FOREIGN MINING AND METALLURGY.

Prices have not experienced any serious change in the French Iron Trade. The forgemasters of the Nord continue to quote iron at 5/ 12s. per ton; by reducing production they hope to secure some little advance in rates, but sales are effected in some cases at present at even 5/ 8s. per ton. Attention is beginning to be a good deal devoted in France to the Exposition of 1889. There is little of interest to report with reference to the German iron trade. Prices have about returned to the level at which they stood at the commencement of the year. Spiegel pig, with 10 or 12 per cent. of manganese, has been quoted at 27/ 8s. per ton. Bessemer pig has brought about 27/ 6s. per ton. Iron has scarcely made 6/ 6s. per ton, and girders have been quoted at 5/ 9s. 10d. per ton. Boiler-plates have been quoted at 7/ 15s. per ton. Tenders are invited for leasing the mineral bearings of the Island of Elba; no tender below 1400/ per annum will be entertained. It should be added that a royalty of 1s. per ton is payable to the Government upon all minerals raised. The Marseilles Gas and Blast-Furnaces Company, which also works the Portes and Gencas Mines, has announced an interim dividend of 12s. per share for 1884. The Belgian Auxiliary Railway Company, a concern which let railway trucks for hire after the system adopted by English wagon companies, reports a considerable contraction of its business last year. In 1884 the amount of wagon rents collected was 10,215/., as compared with 12,785/ collected in 1883.

The Belgian Iron Trade continues to exhibit a depressed aspect. Offers of business are certainly forthcoming, but they are made at such extremely low rates that it is useless to accept them, except, indeed, for the simple purposes of keeping works running. Production has not been sensibly reduced at present, but this may be taken as simply a proof that it is not deemed advisable to altogether stop works; in any case, the profit realised must be very small. Quotations have remained nominally unaltered, but concessions would probably be made without much difficulty. English casting pig has been quoted upon the Belgian markets at 27/ per ton. Refining pig hard iron has made 17/ 18s. 4d. per ton, ordinary ditto 17/ 15s. per ton, and mixed ditto 17/ 12s. per ton. No 1 iron has made 47/ 10s. per ton for exportation, and 47/ 12s. per ton on home account. No 2 has been quoted at 47/ 16s. per ton, and No. 3 at 5/ 2s. per ton. Girders have been quoted at 47/ 16s. to 5/ per ton. No. 3 plates have been quoted at 5/ 12s. per ton for exportation. The current quotation for plates of commerce has been 8/ 2s. per ton. The Thy-le-Château Blast-Furnaces and Forges Company is unable to distribute any dividend upon its share capital for 1884, although a rough profit of 9294/ was realised for the year. The company's two blast furnaces at Wez-Saint-Martin made 59,189 tons of refining pig last year. One of the Thy-le-Château furnaces made 22,645 tons. The production of steel was 19,583 tons in ingots and 17,036 tons in rails.

The strike in the Belgian Coal Trade, to which reference has been made under this head, appears to be still unadjusted. Already German coal is making progress in the strike district, having been sold as far as Braine-le-Comte. In the other Belgian coal mining districts work is happily proceeding steadily. In the Centre, notwithstanding a reduction in working hours to five days per week, there has been no cessation of working operations. The production of coal and lignite in France last year is returned as follows:—Coal, first half, 9,721,231 tons; second half, 9,903,487 tons. Lignite, first half, 257,480 tons; second half, 245,002 tons. The aggregate production of coal and lignite last year was thus 20,127,209 tons, as compared with 21,333,884 tons in 1883, showing a reduction of 1,206,675 tons last year. There is little news to communicate with respect to the German coal trade; prices have been maintained, but there have been no signs of any upward movement. The production of the Government coal mines at Sarrebruck, in February, was 481,046 tons, as compared with 477,208 tons in February, 1884. The deliveries in February were 490,618 tons, so that stocks were slightly reduced during the month. It is stated that 115,000,000 tons of coal have been extracted from the Sarrebruck mines since 1851. Of late years the rate of production has been considerably increased. The Grand Mambourg Sablonnière Colliery Company has announced a dividend of 16s. per share for 1884. The Carvin (France) Mines Company has announced an interim dividend of 1/ 12s. per share for 1884-85.

FATAL ACCIDENT AT COLLACOMBE MINE.—On Wednesday morning a fatal accident occurred at Collacombe Mine, in Lamerton, to a man named Wills, who appears to have been engaged near the mouth of the shaft when a rope suddenly slipped from a pulley over which it worked and, coiling round his legs, threw him into the pit. He fell a distance of about 90 fms., and upon his comrades descending the shaft they found that he had been caught by a beam, across which his body lay. It presented a horribly mangled appearance and life was extinct. It was some hours before the body could be got to the surface, and it now awaits an inquest, the Coroner for the district, Mr. R. B. Rodd, having been communicated with. The deceased was 35 years of age, and leaves a widow. Two or three other men who were near Wills at the time had a narrow escape from a similar fate.



## THE ROYAL COMMISSION ON ACCIDENTS IN MINES.

It would appear that even the Home Secretary's patience at the intolerable length of time the Royal Commission on Mines has sat has become all but exhausted, for in answer to Mr. J. W. LOWTHER in the House of Commons, on Monday night, he said the report of the Commissioners, he regretted to say, had not yet been presented, although he had frequently urged the acceleration of the report, and he had received assurances that it might be expected shortly. The Commission has certainly sat an unconscionable length of time, much longer indeed than any that has been appointed for a great number of years, and so far has been prejudicial more than otherwise for ensuring the safety of the miners, as we shall presently show. In the first month of 1879 an explosion took place at the Dinas Colliery, in South Wales, by which 63 persons were killed, and about a fortnight afterwards there was a similar occurrence at Hensworth, near Pontefract, involving a loss of five lives. The attention of the House of Commons having been drawn to these explosions by the late Mr. MACDONALD, the Member for Stafford, the then Home Secretary, on the 10th of February, 1879, announced to the House that the Government had appointed a Royal Commission for the purpose of enquiring and reporting whether, with respect to the influence of fluctuations of atmospheric pressure upon the issue of fire-damp from coal; to the adoption and efficient application of trustworthy indicators of the pressure of fire-damp, and generally to systematic observation of the air in mines; to improved methods of ventilation and illumination; to the employment of explosive agents in the getting of minerals, and to other particulars relating to miners and mining operations, the resources of science furnish any practicable expedients that are not now in use, and are calculated to prevent the occurrence of accidents, or limit their disastrous consequences. With this programme it will be seen that it is now more than six years since the Royal Commission was appointed, and yet there is no final report: so that, for all useful and practical purposes, the Commission might never have been in existence. During the time it has sat mining fatalities of all kinds have gone on as they did before, and no material change has taken place in the modes of working, the systems of ventilation, or in the lights used, and such could not be expected to be done. The owners of coal mines have, as a rule, desired to do all that was possible to ensure the safety of their workmen. For this purpose they have been looking forward for the report of the Royal Commission, and have deferred carrying out various works, and introducing certain improvements of a scientific character, not knowing what suggestions might be made in the report, and enforced by legislative enactment. In fact, they could not be expected to carry out improvements of a costly description that might have to be set aside by the recommendations of the Royal Commission, and rendered abortive by Act of Parliament. Had the Royal Commission not been appointed many improvements in our mines would most likely have been carried out before now, and it is by no means improbable that the number of persons killed in connection with mining operations since the early part of 1879 would have been less than it actually was. As it is, we find that since the appointment of the Commission 5400 persons have been killed in and about the mines under the Coal Mines Acts, or at the rate of 900 a year. If the Commission has arrived at any definite conclusion, by which, for instance, explosions could be prevented, or the effects of them minimised, surely such might have been made known long since, and a serious loss of life prevented. But if the result of the labours of the Royal Commission, so long carried on, and no doubt at a heavy cost, is merely to leave us where we were as regards our knowledge of fire-damp, and the means for counteracting its effects, the system of lighting our mines, the modes of ventilating them, and the prevention of falls of roofs and sides, then, as we have before stated, it would have been better had the Commissioners not been appointed. Under any circumstances, however, it is to be hoped that the report will not be much longer delayed, seeing that, if length of time alone in which the Commissioners have been engaged is taken into consideration, it should not only be exhaustive but most valuable as well.

**TEES-SIDE IRON AND ENGINE-WORKS COMPANY.**—The annual report of the Tees-side Iron and Engine-works Company (Limited), Middlesborough, has been circulated amongst the shareholders. It states that, notwithstanding the very unsatisfactory condition of business during the whole of 1884, the year's working has resulted in a profit of 2607½ 6s. After deducting from this amount 2088½ 6s. 9d., brought forward from last year, there is left a balance of profit of 519½ 5s. 3d. to carry forward to the current year's account. In accordance with the agreement to restrict the production of pig-iron in this district, two of the furnaces continue out of blast. Owing to the depression still existing prices have further declined. Consequently a new arrangement of a similar character has been made on equitable terms. The two furnaces out of blast are now being re-lined, and put into working condition. All mineral contracts terminated at the end of 1884, and have been replaced by others on more favourable terms. The engineering and foundry departments have been well employed, although, owing to the severity of competition, not to their fullest extent. A profit has resulted, which, under the circumstances, is considered satisfactory, and augurs well as to the capabilities of the departments for doing a good and profitable business when better prices can be obtained. The retiring directors, Messrs. S. Smith and H. A. Swan, offer themselves for re-election.

## AT THE SMELTING FURNACE.

The furnace lifts its walls of black,  
A stubborn bulk from end to end;  
And through the grimy chimney stack  
Continual flame and smoke ascend;  
The night comes down with wind and hail,  
A shelling cloud, an icy rain;  
The timbers creak in every gale,  
The tempest howls at every pane!  
Delicious core of rosy heat,  
Alluring shelter, huge and warm,  
To beggars drenched in snow and sleet,  
The drifting outcasts of the storm!  
At that wide door rude shapes appear  
In one thick swirl of humming snow:  
With mirth, and jest, and savage cheer  
The hours of darkness come and go!  
No cover this for chosen friends,  
No happy roof of man and maid;  
A chimney hot for larger ends,  
A hearth for ruder purpose laid!  
All night their sweltering fires are fed,  
Their mighty bellows roar again,  
Who keep the dusky forges red,  
With brawny labour-serving men.  
The black-browed idlers straggling in,  
The hardy miners, tough and tall,  
The knotty foreman, scarred of skin,  
The generous roof receives them all;  
The voices rise, the men retreat,  
Tumultuous clamour strikes the town,  
When, white with overpowering heat,  
The molten mass comes pouring down!

## THE LARNE EXPLOSION.

The report of Her Majesty's Inspector of Explosives on the explosion of dynamite or nitro-glycerine at Larne, in the county of Antrim, issued and presented to Parliament recently, is instructive, as showing how a dangerous explosive may lie unsuspected for years, and a disaster may happen in the most unexpected manner. As the report says, the explanation of the accident is simple and its cause obvious. It appears that for many years an abandoned schooner, named the *Essequibo*, has lain in the harbour at Larne. Originally she was used, without a license, as a floating dynamite magazine; but in 1876 all dynamite was supposed to have been removed from her, and of late years she was looked upon as a source of firewood by anyone choosing to go and help the action of the tide and time in dismembering her as she lay on the mud too dilapidated to float, with the water pouring in through her battered and gaping sides between half and full tides. The last of these foragers were the unfortunate victims of the accident on the 5th February last. The result of the enquiry shows very clearly that after the owner of the vessel had been prosecuted and convicted for using it as a place of storage for dynamite—some 10 tons being kept there without a licence—a long correspondence between him and Col. MAJENDIE on behalf of the Government with a view to obtain a license resulted in a provisional license being granted for the sale of the dynamite; which was much damaged by water, and owing to the leaky state of the vessel the tide rose above part of it. Of this license several breaches were, however, committed, to some of which, though they happened nearly 10 years ago, the cause of the accident is traceable, according to the report. Its delay in occurring luckily saved a serious damage to the town, within a mile of which, contrary to the provisions of the license the vessel was moored, and fortunately the prohibited absence of a lightning conductor, the exposure of the nails and other ironwork, the want of provision of magazine boots and clothing, and of precautions to exclude matches, &c., did not, when there was so much explosive matter aboard, result in an accident which would have been appalling. But the omission of the precaution of storing the dynamite in waterproof packages, and above the water-line, owing to the leaky state of the vessel, resulted in this—that the dynamite was exposed to wet, and became disintegrated to a very large extent into its component parts of keiselguhr and liquid nitro-glycerine. The latter found its way into the bilge, and being heavier than and not mixing with water, remained there for a time. Most of it, no doubt, formed a highly diluted sort of dynamite with the mud and slush at the bottom of the vessel; but unluckily for these two poor fellows a small quantity appears to have been drawn into the tube of a pump, and being arrested in a recess remained there unchanged, and with undiminished force, for an indefinite time. It appeared at the inquest that the boys of the town often went on board, and pretended to work the old pump, which, perhaps, caused some of the liquid nitro-glycerine to become lodged in the pump tube, with the result that two labouring men—SAMUEL HARBINSON and WILLIAM HIGGINS—who, being out of work, had got the pump tube out of the vessel with the object of selling it for old iron, met a fearful death when endeavouring to break it up with sledge hammers to render it more portable. The whole occurrence points with a melancholy clearness to the necessity of the precautions as to the storage of dynamite, and affords another instance of the length of time during which a dangerous explosion may lie unsuspected for years, and eventually cause a disaster when least expected. The disregard of necessary precautions on this unlicensed vessel caused the dynamite to become disintegrated by water, and the nitro-glycerine to permeate the various nooks and corners of the boat, to hide itself in out-of-the-way places, lurking like an Arab behind cover, ready to spring with deadly ferocity on anyone who unsuspecting of danger comes into contact with it. It is such cases as these that not only vindicate the precautions enjoined by the Explosive Acts, but show the absolute necessity of their strict enforcement.

## THE AMERICAN METAL MARKET.

Messrs. MATHEWS and WEBB, Denver, Colorado, write as follows on the 11th inst.:—The general tone of business has decidedly improved, and its aspect is more cheerful. It seems clear that no special session of Congress will be called, and the new Cabinet appears satisfactory to the "Ins," and not very despondent to the "Outs." The steady coinage of silver up to another 40,000,000 seems practically certain, and the troubles on that score are therefore postponed for several months. The demand for money at the large centres is still light, and the surplus in the New York banks show it by being \$49,000,000, against \$19,000,000 same time last year. The newly laid import tax on wheat going into France has caused a drop of 3½ c. in the article, and has also caused corn and breadstuffs generally to decline. Railroad stocks have advanced and declined fitfully, but seem fairly strong. The New York imports last week were \$7,927,000, against \$5,870,000 exports. The various clearing houses still show a decrease of 18 per cent. from the same week last year in the volume of business. Silver abroad has ruled a trifle lower, while here it has been steady. The copper circuit is very lively, but the price of admission that the Lake companies paid is turning out to be pretty high. The smart Yankees have over-reached themselves this time, and no one will come to their rescue. John Bull has tumbled Chili bars down to 46½ 17s. 6d., and promises to sit solidly on the price long enough to make a low March average. This price will bring the price of Lake down to 10 cents for the New York pool, and will cause the large export block to be sold at 50½ 17s. 6d., whereas best selected is now ruling in London at 52½. There is an epidemic of copper circulars, and the latest eruption declares copper to be several per cent. below the average cost. Mr. Raunheim's report of the Mansfield Company's surplus being over 30,000,000 lbs.; is declared to be six times too large. At New York, the prices have been steady at 11½ cents to 11¼ cents for Lake, and 10½ to 11 cents for other brands, with sales of 400,000 lbs., and a decidedly unsettled tone. Lead has been the only metal that has really shown a steady improvement. The sellers, however, can claim all the credit of the higher prices, for alone by their dogged obstancy and sheer pluck have the smelters and mines been saved from a decline during the past five weeks. Stocks have been carried over the dull season until now, when the demand will soon set in. In fact, it has already set in, for sales last week were 2000 tons, about evenly distributed between common and corroding, and between St. Louis at 3½ cents, and Chicago at 3-55, and New York at 3-70, the prices being relatively the same, freight added. Another healthy sign has been the advance in the price of white lead. Stocks of pig are nowhere excessive, and supplies have fallen off at the rate of 10 to 15 per cent. Several of our largest producing mines are shut down and the effect of this must be felt.

**HOLLOWAY'S OINTMENT AND PILLS—COUGHS, INFLUENZA.**—The soothing properties of these medicaments render them well worthy of trial in all diseases of the respiratory organs. In common colds and influenza the pills, taken internally, and the ointment rubbed over the chest and throat, are exceedingly efficacious. When influenza is epidemic, this treatment is the easiest, safest, and surest. Holloway's pills purify the blood, remove all obstacles to the free circulation through the lungs, relieve the over-gorged air tubes, and render respiration free, without reducing the strength, irritating the nerves, or depressing the spirits; such are the ready means of saving suffering when anyone is afflicted with colds, coughs, bronchitis, and other chest complaints, by which so many persons are seriously and permanently afflicted in most countries.

## Trade Reports.

## CORNWALL.

March 26.—There is little more to be said this week concerning the condition and prospects of mining affairs here generally than has already been said more than once of late. We believe the general conditions are good, and the prospects certainly not a whit less hopeful; but, while politics are unsettled, and there are any means of working fluctuations to individual benefit, the sort of see-saw business to which we have grown accustomed of late is likely to last. The reports continue, almost without exception, to be in the right direction, nor is there any diminution of confidence.

Advocates of the Cost-book System can point with good reason to Wheal Uny as a favourable example of the working of that system under pressure. Here is a mine which has nearly reached, to all appearance, success, which has lost by accidental circumstances a large proportion of its shareholding strength, and which, by heavy rains and the stoppage of East Uny, has had its most valuable points laid under water. Under the Limited Liability system, as commonly worked in relation to mines, there would not be, in such a case as this, the smallest chance of recovery. But here, to meet the difficulty, it is grappled with at once, and a 3½ call made, which is not only sufficient to wipe out the debit balance of 5718½, but to provide means for continued operations. What may be done at the special meeting to be held next week, of course, we cannot anticipate; but meanwhile a good deal more than the interests of Wheal Uny has been secured—those, in fact, of the district.

The boring-machine of Captain Teague, jun.—"Cornish Boy"—has given an excellent account of itself at Tincroft, where it has been at work in the bottom of the downright shaft: 10 fms. have been driven in four weeks by its aid through hard blue granite. The ventilator with which Captain Teague's name is so honourably associated, has proved of material service also in producing this result. The heat at the bottom of the shaft is 135° Fahr.; and though, of course, men can and do work under worse conditions than this, it is at the cost of severe toil and at a heavy expenditure of muscle and time. "Beating the borer" in such an atmosphere as that is one of the most exhausting operations in which men can engage; and though mechanical boring has to a large extent relieved them of the necessity for this, the enervating conditions of extreme heat and fouled and vapour-charged air still remain a very serious drawback where they are not grappled with, as in the present instance. In its latest form, as it is now in operation at Tincroft, it is difficult to see what more in the way of simple effective ventilation is required, and we may depend upon it the necessity for this kind of assistance will steadily increase as time goes on.

The Redruth Mining Exchange appears destined to have a very useful and satisfactory career. The annual meeting of the shareholders in the Exchange Company was held on Monday, Mr. D. W. Bain presiding. The secretary (Mr. G. S. Bray) read the directors' report. The statement of accounts showed the year's receipts to have been 93½ 6s. 7d., and the expenditure 132 9s. 4d., which, with 38½ for payment of a dividend of 8s. per cent. on the paid-up capital, left a balance of 41½ 17s. 3d. The following were elected directors for the ensuing year:—Messrs. D. W. Bain, M. Edwards, jun., S. J. Davey, J. Sims, S. Abbott, James Wickett, T. Prior, A. Lanyon, John Martin (Truro) H.T. Williams, and J. Carter. The annual meeting of the members of the Exchange, of which Mr. T. Davey is secretary, was held at the same place, Mr. Bain presiding. The accounts showed a balance in hand of 43½ 5s. 3d., which was handed over, as usual, to the Limited Company, and the same directors act in both.

There is certainly ample ground for the opinions expressed concerning the delay in the operations of the South-Western Junction Company, which snuffed out by absorption the scheme of the Devon and Cornwall Central Railway, so far as the Gunnislake and Callington district is concerned. So far as can be gathered, the bigger scheme, which is duly authorised, has made no single step or visible progress, and nobody seems to know when it will. Meanwhile here is one of the most important mineral districts of the West—using the term mineral in its widest sense as applying to clay and stone as well as metals—in want of the first essential of development—railway accommodation. What has been done on and around Kit Hill and Hingston Down is hardly a tithe of what might be done if only enterprise had a fair field, and the present position of affairs is all the more unsatisfactory, seeing that those interested in the matter were prepared to help themselves and had done so in the provision of a scheme, which so far as they were concerned was regarded as perfectly satisfactory until they were politely elbowed out by a company that seems resolved upon doing nothing.

## NORTH WALES, SALOP, AND CARDIGAN.

March 26.—The salt proprietors are uniting with the view of arranging to limit the output, and so put up prices; they cannot, however, force up prices to any great extent, otherwise they may find themselves undersold from foreign sources. It may not be generally known that the salt produced by the evaporation of sea water on the coasts of South-Western Europe is much preferred in the Northern ports for fish-curing purposes before English manufactured salt. In a sojourn at any of the herring and cod fish ports of Western Norway many cargoes of this sea salt may be seen arriving in vessels which went down South laden with dried fish, and there you are assured that it is preferred before English salt.

Mr. A. B. Forwood, of the Liverpool City Council, recommends the letting of the construction of the great work in connection with the Vyrnwy water supply to contractors.

The question put by Mr. Love-Parry Jones, in the House of Commons, last Thursday night, as to the desirability of appointing an Assistant Inspector of Mines for North Wales, specially qualified to advise on and pay special attention to the working of slate quarries, did not elicit a satisfactory reply from the Home Secretary, who said there was no intention of appointing such an official. This is a pity, for it is little short of a disgrace that so large an industry as open slate quarrying should be left unprotected and uncared for, except by inspectors of factories. Lord Penrhyn is carrying things with rather too high a hand among the workmen at his slate quarries. At a political meeting, held recently at Bethesda, a number of the workmen found that prior to the time appointed the room was being packed by the opposite side. Enraged at this they forced their way in, and created some disturbance. His lordship has, therefore, written a letter threatening that any persons guilty of interruption in the future shall be dismissed from his employ. It is a pity for his own sake that his lordship has been advised to do this. He had much better let the rival parties fight it out themselves. At the Dinorwic Quarries, Llanberis, on Saturday, Robert Jones, a quarryman, died through falling down an incline. The Slate Trade generally is in a healthy state, and there are just some signs of movement with respect to the quarries of the Snowdon district.

In colliery matters, a boring has been going on for some time



past to the north-west of Rhosllanymrhugog, a large mining village near Wrexham, and last week a seam of coal was reached, which lies 170 yards below the lowest usually worked in that district. Of the quality of this new seam there is not as yet much known. There is a remarkable absence of accidents, strikes, or disturbances of any kind, and the men are all steadily at work. Work still goes on at some of the South Cardiganshire lead mines, but without results at all commensurate with the endeavours or costs. The same remark is true also of all the other lead and copper mining districts of Wales and Shropshire. Most other works are in a healthy condition, and fairly busy.

#### TYNE AND WEAR.

March 26.—There is no change of importance to notice in the state of the Coal and Coke Trades. The steam coal trade continues very quiet, and no substantial improvement is expected until the Baltic is fully opened out, but this will occur shortly. Considerable quantities of gas coals continue to be shipped at Tyne Dock, and other points in the Tyne and Wear. This branch of the trade is still in the best position on the whole. The steam coal trade in Durham continues in a depressed condition, and notices have been given to a number of men at one of Boleckow and Vaughan pits in South Durham, and also at other works in the district. The house coal trade continues in a dull state, and short time is made at many of the best works in this important branch of the trade.

The demand for manufacturing coals and for coke continues quiet, but the demand for these goods for export continues on a fairly good scale.

It is pleasing to notice that the extensive collieries at Thornley are now likely to be reopened shortly. As we have before mentioned a large quantity of excellent coals of various kinds remain in those collieries. It is understood that arrangements have been made with the trustee (Mr. Purdy), and the workmen's representatives on the one part, and the mortgagees (Messrs. Barclay, Bevan, and Co., London) on the other, by which the latter take full possession of the Thornley Collieries, after paying all rents, workmen's wages, and a consideration of 250*l.*, and part of other moneys, proceeds of recent sales, to the unsecured creditors. Negotiations are also proceeding between Messrs. Barclay, Bevan, and Co., and a large and influential Northern company, to work the collieries, and the arrangement is likely to be completed shortly.

**THE USWORTH COLLIERY EXPLOSION.**—The progress made in opening out the main roads into the workings here has only been slight. The work is still very difficult and arduous, owing to the occurrence of heavy falls and the presence of large quantities of noxious gas. A station was, however, reached on Sunday, and the bodies of two boys were found and sent to bank. They were much mutilated and decomposed, so as to be scarcely recognisable. One of the bodies recovered was that of John Taylor, 19 years of age, and the other was Thomas Murray, 14 years of age. They were found in a refuge hole, and they were both very much burnt, which proves that the blast was very strong at this point. This station is called the middle north landing, and from this point an attempt was made to reach the stables, only 30 yards distance, but the presence of gas in large quantities prevented any further advance. When the "far face" will be reached, where most of the bodies are expected to be found, is at present very uncertain. With respect to the Fleuss lamp, which was introduced some time ago at Usworth for the purpose of penetrating, if possible, into the workings charged with inflammable gas, the experience gained has destroyed all confidence in it. When in use there in an explosive atmosphere; it exploded with great violence—certainly a very alarming occurrence. It is, therefore, naturally concluded that the lamp is dangerous in such a position. The lamp also caused much disappointment in other respects. It has been understood that when it was charged with oxygen it would continue to burn in any situation without being fed from the external air about three hours. It was found, however, that the lamp was often extinguished in a very short time, although the lamps were in charge of men from the Seaham Colliery who were trained to use them. As to the Fleuss apparatus, it was not tried at Usworth, but there is little doubt that its use enables a man to penetrate some distance into an atmosphere which he could not breathe with impunity, and it, therefore, may be very useful indeed for the purpose of exploring amongst choke-damp and other noxious gases, and if the lamp can be got to burn for some time it might be very useful also under such circumstances; but considering what occurred at Usworth, it appears to be dangerous to introduce it into an atmosphere which is explosive.

The explorers at the Usworth Colliery made some progress on Wednesday night in clearing away the fall at the middle north landing and near the stables at 12 o'clock. They reached the stables, and here no trace of fire was found. The dead bodies of the horses lay about in a terrible condition, being much mutilated and decomposed. Pushing on the explorers found about 30 yards beyond the stables the bodies of eight men, who had apparently died from after-damp, and were unrecognisable except from their clothing. The men must have been resting in the middle of their shift when the explosion occurred, as some of them had their jackets on, and their food lying near them. They were speedily brought to bank.

The Iron Trade has continued extremely flat. There is no recovery either in demand or prices; shipments are restricted, and the demand for the Continent is very limited at present. At present there does not appear to be much chance of working off the stock accumulated during the winter—90,000 tons. Both makers and merchants are now selling No. 3 pig-iron at about 24*s.* per ton. The deliveries for the week were 16,000 tons, and for the month 39,473 tons, against 89,462 tons in February last year.

The condition of the manufactured iron trade has not changed much. There has, however, been more enquiry for angles and plates for shipbuilding, but manufacturers are not only badly supplied with work, but they cannot realise remunerative prices. There is little change in prices; bars only realise from 4*l.* 17*s.* 6*d.* to 5*l.* 7*s.* 6*d.*; ship-plates, 4*l.* 15*s.* The steel trade is favourable on the whole. An order for sleepers for the Soudan has just been turned out by the Darlington Steelworks. The rail trade is rather dull, but the makers of steel plates are busy, and will continue so for some time to come. Iron shipbuilding is improving, several good orders for new ships having been placed in the district lately. There is considerably more activity at the Jarro, and other large works. At Elswick there is much activity in the various branches of business carried out there. We have often noticed those works in this letter, and they have been largely extended lately; they now cover an area of 50 acres, and have a river frontage of more than a mile in length. An immense stock of fine hematite iron ore is held here, derived mainly from Spain. This ore is smelted in blast-furnaces on the spot. The first speciality introduced here many years ago was the hydraulic machines, invented by Sir William Armstrong, and a large and very profitable business has been done in this branch. Afterwards the manufacture of guns of various kinds, also the invention of Armstrong, was commenced, and an enormous business has been established in those branches. An amount of the most complete and extensive kind has indeed been formed, which for extent and completeness cannot, we believe, be

rivalled in this or any other country. The latest addition to the works is the erection of steelworks, and these important works are now approaching completion. A shipyard is also in course of formation on a very large scale, when it will be possible to construct vessels of the largest dimensions, and, if required, larger than any vessels at present afloat. When this is completed warships of all types will be built and fitted for all nations. Everything necessary for building the vessels and equipping them will be produced and manufactured in the works.

The iron ore miners in the Cleveland district have given the masters notice that they will terminate the present sliding-scale arrangement at the end of June. This course has been taken with a view to a thorough discussion of the wages question, and a readjustment of the sliding-scale. It is probable that the blast-furnace men will give notice to the same effect at an early date. It is to be hoped that a new sliding-scale will be arranged; these scales have certainly proved of great advantage, as they have been the means of tiding over very difficult times without the occurrence of those disastrous strikes which were so common in former times.

#### DERBYSHIRE AND YORKSHIRE.

March 26.—Mining affairs in Derbyshire are not looking so healthy as they did, and the support promised by the miners in the county to those in the West Riding who were about to strike against the 10 per cent. reduction is not likely to be given. The colliery-owners have had a meeting and come to the resolution to give their men notice of a 10 per cent. reduction, the same as has been given in the West Riding. The men intend resisting the reduction; but seeing that there are no funds, and that a great many of the men are non-Unionists, the opposition is not likely to last very long. Indeed, the Unionists after one week will be about as well off as the non-Unionists, and neither of them are likely to receive much sympathy from the shop-keeping class or the general public. Still, the men belonging to the Association are putting on a bold front, and to show what an important body they are they have declared that they must have direct representation in the next Parliament. Consequently Mr. Haslam, the secretary of the Association, has been selected as a labour candidate to contest one of the Derbyshire divisions. The miners will, of course, have to pay the expenses connected with the contest, and this will not be an easy or agreeable matter, seeing that the Association is by no means a strong one, whilst not a few of the members will demur to paying a man 500*l.* a year for spending a few months in the Metropolis every year. The amount named appears to be a large sum, but it is the one that secretaries of associations, following the example of Mr. Burt, think they are entitled to when they become Members of Parliament.

The collieries in Derbyshire have been working very fairly for the time of year, and an average tonnage of house coal has been forwarded to London by the Midland and Great Northern Railways. The prospect of a strike, which will close a considerable number of collieries, not only in the West Riding but in other districts as well, contrary to what might be expected, has not affected the price of coal in the Metropolis, which is now lower than it was in the earlier part of the year. Merchants and large dealers have kept particularly quiet, and have given out orders the same as if the trade had been fixed for some time to come, instead of being in a most unsettled state. It is evident that they consider, if a strike should take place, it will not be of long duration; and that with a decreased consumption of both house and gas coal there will be no difficulty in obtaining the necessary supplies. Steam coal has continued in but moderate request, so far as consignments to a distance are concerned, and not so much good to London, where it realises from 1*s.* to 2*s.* per ton less than ordinary house coal, although it costs fully as much to the colliery owners who produce it; but much of it is exported, owing to the distance from a shipping port; but, as has been before pointed out, there is every reason to believe that during the ensuing summer the dock facilities at Boston will be taken advantage of, and coal sent to that place for shipment to the Continent, as well as to some of the home ports. The requirements of gas companies are now getting towards the lowest, but more in all probability will now be sent away, so that in the event of a strike taking place there will be sufficient stocks to last until it is over. Coal for boiler purposes has been in moderate demand, whilst the competition has continued keen on the part of several districts.

At the ironworks in Derbyshire the production of pig has not been equal to what it was some time since, not so much being taken by the millowners of Staffordshire, and for other purposes in Lancashire, whilst a moderate quantity only has found its way into South Yorkshire. The local foundries, however, have of late consumed a tolerably fair quantity, for some of them have been kept steadily going on pipes and other kinds of heavy castings. The forges have also taken rather more, and there is every prospect that the trade during the year in rolled iron will be of a satisfactory character. In malleable iron, in the shape of light and ornamental castings, business has ruled more steady than brisk, and there is now every reason to believe that it will continue to improve. A moderate business only is being done at the engine-works, and the same may also be said with respect to the railway wagon works.

Trade in Sheffield varies considerably, some branches being in a tolerably healthy state, whilst others are still depressed. The lighter departments are those which appear to be the worst off. Not much pig is now being made in the district, and with the putting out of the furnaces at Parkgate and Thorncliffe there will only be three or four left, as Milton and Elsecar have been out for some time. The consequence is that in all probability a good deal more ordinary pig will have to be imported. The production of steel, Bessemer and crucible, has increased of late, so that more hematite pig has to be brought from a distance for conversion. Some of the cutlery and tool makers now use more Bessemer steel than formerly, as certain qualities can be made that suit them as well as the more expensive crucible material. The steel rail trade has become more active, and a steady business is the rule as regards springs, tyres, wheels, and other kinds of railway material. Some heavy castings are now being turned out in steel, and the additions made at the leading establishments place them in a position to make the largest work that is likely to be required, or that can be produced at any other place in the kingdom. Some of these large castings are in connection with heavy ordnance and for large vessels. A good deal of the same material is also being taken for wheel specialities, but the demand upon the part of cutlers and others engaged in the lighter departments of trade is by no means large. Wheels are now being made of forged steel, and there appears to be an increasing demand for them.

Some of the rolling-mills are not running so well as could be desired, but there has been no decline in the activity as regards steel-faced armour-plates, for which there are heavy contracts in hand, so that this branch promises to be very busy during the whole of the present year. In other kinds of plates business is only moderate, but steel plates are now being substituted for those of iron at several of the boiler works, and there is no doubt they are the most economical as well as the safest. Not much change has taken place in the business doing in cutlery, and few houses are able to keep their men fully employed, but it is expected that orders will now come more freely from America, trade

with which has been particularly quiet for a considerable time past.

In sheep shears a steady business has prevailed, for the export demand has kept up very well, our manufacturers being able to hold their own against the American and other makers. Not so much is being done in scissors, and the Sheffield makers have lately brought under the notice of Government the action of certain German and French manufacturers, who not only stamp their goods with the word "Sheffield," but also brand them with the trade-mark of some of the well-known firms. Forks and light agricultural tools are being more extensively produced than they were, and the same is the case as regards lawn mowers, and some other kinds of hand machines. Several of the foundries are better employed than they were, whilst railway wagon builders are still able to keep their hands fully going.

There has been no change of any note at the collieries in the West Riding, trade having gone on much as usual. The probability of some thousands of miners being idle next week has not led to the increase in the demand for coal that was anticipated. A fair tonnage, however, of house coal has been forwarded to London from several of the Silkestone and Thick seam collieries; but prices remain without alteration, the best qualities of inland coal being delivered to the Metropolitan consumers at about 22*s.* per ton. Steam coal has gone off fairly for the season, especially for shipment from the Humber. The railway rate from the South Yorkshire district to Hull was on Tuesday brought under the notice of the heads of the Northern-Eastern Company, and as the Hull and Barnsley line will before long be a competitor for the traffic, the probability is that the rate will be lowered.

On Friday the colliery-owners of South Yorkshire meet the representatives of the miners for the purpose of discussing the wages question and the proposed reduction. Considering that the men have declared that they will not submit to any reduction, and the masters are determined to enforce the reduction, the conference is likely to leave the question where it was.

#### LANCASHIRE.

March 26.—There is still comparatively very little material change to report in the condition of either the coal or the iron trades of this district. Except that there are perhaps rather more enquiries stirring for finished iron, chiefly for shipment, the condition of the iron trade continues without improvement, and a depressed tone still characterises business generally, with both buyers and sellers in the present uncertain state of the market showing a disinclination to commit themselves to any very long-forward engagements. So far as pig-iron is concerned, consumers who bought at all largely some time back when contracts for a moderate weight of iron were placed, have, in most cases either iron in stock or still to come in, more than sufficient to cover any present prospective requirements, so that they are practically out of the market.

Where business does come forward, it is only in small parcels from consumers who have all along been purchasing from hand-to-mouth, and, with the continued weakness in prices, they still show an indisposition to go beyond actual requirements. For good local district brands the average quoted prices for delivery, equal to Manchester, remain at about 40*s.* to 40*s.* 6*d.*, less 2½ per cent.; but there are sellers in one or two cases at 1*s.* to 1*s.* 6*d.* per ton under these figures.

For hematites there is still little or no enquiry, and nominally good foundry brands delivered here are quoted at about 53*s.* to 53*s.* 6*d.*, less 2½. In the finished iron trade the slight improvement during the past week or so is not of a sufficiently general character to have as yet any appreciable effect. Most of the forges are still only kept very irregularly employed, and prices are no better, 5*l.* 7*s.* 6*d.* for good qualities of Lancashire and North Staffordshire bars delivered here remaining about the basis.

For coal prices are weak, but without quotable change. The better qualities of house fire consumption still meet with a moderate demand, but all other classes of fuel for iron-making, steam, and general trade purposes still move off very slowly, and common round coals are a complete drug in the market. At the pit mouth prices average about as under:—Best Wigan Arley, 8*s.* 6*d.* to 9*s.*; inferior qualities and Pemberton Four-feet, 7*s.* to 7*s.* 6*d.*; common round coals, 5*s.* 3*d.* to 5*s.* 6*d.* per ton; burgy, 4*s.* 6*d.* to 5*s.*; common slack, 2*s.* 9*d.* to 3*s.*, with better sorts fetching 4*s.*, and in exceptional cases 4*s.* 3*d.* per ton.

In the Shipping Trade there has been very little doing, and common steam coals are pushed for sale at very low figures, but for better qualities 7*s.* to 7*s.* 3*d.* remain the minimum prices quoted for delivery at Garston and Liverpool.

#### NORTH AND SOUTH STAFFORDSHIRE.

March 26.—The condition of the Coal Trade is without improvement upon the week. Indeed, buyers are pressing for further concessions in price. The production is considerably below that at this time last year, yet the supply is excessive. The owners upon Cannock Chase continue to send in large quantities of fuel to compete with that raised from the South Staffordshire mines proper, and it is impossible to secure rates in any way better than those which have for some time past prevailed. Masters state that wages must be reduced. No definite action has yet been taken, but it is not thought that it will be very long delayed. The colliers will doubtless attempt to resist another change, but they have no funds at their back, and are, therefore, not in a position for anything like a prolonged fight.

In the Pig-iron Trade contracts are scarce, and current sales are confined chiefly to limited parcels. Simultaneously deliveries are low from native furnaces, and those from a distance are decreasing, while stocks at native works are steadily going up. One or two makers have added to their stocks since Christmas by several thousand tons. The number of furnaces now blowing in South Staffordshire is estimated at 35, with an aggregate output of 7000 tons a week. Prices are easier than a week ago. All-mine pigs are 57*s.* 6*d.* down to 55*s.*, part-mine are 42*s.* to 48*s.*, and cinder pigs 36*s.* 3*d.* to 35*s.* The prices of Derbyshire and Northampton pigs are without alteration. Hematites are reported to be changing hands at in some cases as low as 52*s.* 6*d.*

The number of iron mills that are standing idle is an increase this week over last, and the orders arriving are only sufficient to allow of very partial employment. The present quotations for common bars are nearly the lowest that have been accepted for many years, ranging, as they do, from 5*l.* 10*s.* down to 4*l.* 2*s.* 6*d.* per ton. Nail strip is to be had in some cases at 5*l.* 5*s.*

In North Staffordshire the position of the Coal Trade is without improvement upon last report, but in iron a little more is doing.

#### SOUTH WALES.

March 26.—The amount of coal now being sent out to Bombay, Malta, and Gibraltar helped to make up a higher average last week at Cardiff than has ever been known in the history of the port, the quantity being 174,704 tons foreign and about 20,000 coastwise, with 3708 tons patent fuel; Newport, 28,530 tons foreign and 23,679 coastwise; Swansea, 16,256 tons foreign and about 11,000 coastwise, with 5180 tons patent fuel. Small steam coal and patent fuel are in great demand, but house coal is very



quiet as the season advances. Pitwood is now quoted at 16s. 6d. per ton, and the market is becoming firmer.

The demand for coal at Dowlais is so great that orders can hardly be met. The pits are now turning out 60 per cent. more than usual.

The Steel Trade appears to have some brighter prospects ahead. The London and North-Western Railway Company having determined to use steel sleepers instead of wooden ones, which soon rot, have given an order at Dowlais for 3000 tons as an experiment, which if successful will lead to their entire system being laid with them. This change will keep the Dowlais Works fully employed for three years. Steel sleepers will last for nine or ten years, thus proving much cheaper than wood in the long run. In India it appears that the wooden sleepers are eaten away by white ants, but their depredations would be nil upon steel. The example of the London and North-Western Railway may be followed by those of other railway companies, and thus lead to a resuscitation of the steel trade. At the Tredegar and Ebbw Vale there is also a brighter prospect than has been the case for some time.

The amount of iron sent away last week from Cardiff was 406 tons, and at Newport some fair orders are being shipped. The arrivals of iron ore at Cardiff last week were 8766 tons from Bilbao, and 466 from other places; Newport received 14,727 tons from Bilbao, and 3600 tons from other places.

The Tin-plate Trade seems to be receding into its old condition. Makers are asking from 14s. to 14s. 6d. for good IC cokes, while speculators are offering only 13s. 6d. to 13s. 9d., which does not lead to business.

## Registration of New Companies.

The following joint-stock companies have been duly registered:—

**THE COLOMBIAN MINING COMPANY (Limited).**—Capital 4000l., in shares of 1l. The objects for which this company is established are to purchase lease, &c., gold and other mines, minerals, and mining rights, lands, &c., in the United States of Colombia, and to erect, construct, and acquire by purchase mining plant, machinery, buildings, rights of way or water, easements, patents, and other things necessary for the undertaking of the company. The present subscribers are—Robert Heane, Franklands, Sussex, major, 500; Mathew J. Rae, M.D., 14, Finsbury Circus, 250; E. L. Nugent, 33, Chancery-lane, barrister, 350; W. E. Lambert, 2, St. Pancras-lane, accountant, 500; H. G. Britten, 1, Laura Villas, Leyton, 1; A. W. Thornton, Redhill, Surrey, 1; E. Penman, 89, Crofton-road, Camberwell, 1.

**LUCKNOW FREEHOLD SYNDICATE (Limited).**—Capital 60,000l., in shares of 10l. Established to adopt and carry into effect an agreement dated March 17, 1885, between William Drogo Duke, of Manchester, H. W. Newman, and Clement W. Tancred, of the one part, and Thomas Robson, as trustee of the company, of the other part; also to purchase, lease, work, and develop the real and personal property, gold, and other mines, minerals, precious stones, metals, and mining and other rights acquired or to be acquired by the company under said agreement. The subscribers (who take one share each) are—W. E. Forster, M.P., 80, Ecclestone-square; John E. Travers, Ringwood, Hants; Lord Gosford, 105, Harley-street, Cavendish-square; G. W. Waddell, Grand Hotel, Charing Cross; R. D. Paula, 72, Bishopsgate-street; E. W. Langland, 2, East India Avenue; G. E. Lake, 1, Lincoln's Inn-fields.

**THE GOLD AMALGAMATOR SYNDICATE (Limited).**—Capital 7500l., in shares of 5l. Established for the purpose of extracting the precious metals from their ores by electricity. To purchase or otherwise acquire, subject to a royalty or otherwise, all the exclusive rights obtained in and for the colony of New Zealand, and other patent rights to be obtained in that colony in connection with the process known as Barker's Patent Electro-Amalgamating Process, and to purchase, lease, &c., such other patents in connection with motive power and otherwise as the said company may deem advisable. The subscribers (who take one share each) are—Sidney W. Smith, 4, Carlton-road, Tottenham; R. W. Dee, 125, Flaxman-street, Camberwell; W. Choat, 20, Vivian-road, Peckham; John Lichfield, Leytonstone; Edward Tickling, 36, Wilson-street; W. Humphrey Waddington, 18, Billiter-street; Alexander T. Angus, 19, Holland-road, Kensington.

**WATNEY AND CO. (Limited).**—Capital 1,300,000l., in shares of 10l. Established to acquire the business and goodwill of Messrs. Watney and Co., of the Stag Brewery, Pimlico, and the brewery premises, mortgages, loans, and book debts; also the real and personal property held in connection therewith, and to carry on and develop the said business of brewers, maltsters, hop merchants, distillers, &c. The present subscribers (who take 100 shares each) are—James Watney, M.P., the Stag Brewery; H. C. O. Bonson, Castle-street, Long Acre; Charles Combe, Castle-street, Long Acre; Samuel Whitbread, M.P., Chiswell-street; F. Du Cane Godman, Chiswell-street; Edgar Lubbock, Chiswell-street; Vernon W. Watney, Thorne House, Palace Gate.

**THE TREFRIEVE SULPHUR COMPANY (Limited).**—Capital 50,000l., in shares of 5l. The object for which this company is established is to carry into effect and enter into an agreement to be made between therein called the vendor of the one part, and the Trefriev Company of the other part, for the purchase of the vendor's interest as lessee of the Cae Coch Pyrites Mine and Cae Gwyder Isa Quarry, in the county of Carnarvon, and of minerals, machinery, plant, property, &c., as specified in the said agreement. The present subscribers are—Adam W. Walton, 52, Batavia Buildings, Liverpool, 40; William Veitch, Chemical Works, Crieff, N.B., 40; George Veitch, Crieff, N.B., 10; John Murphy, Chemical Works, Vauxhall, Liverpool, 40; W. Boardman, 7, Boardman-street, Hyde, 40; Joseph Boardman, 76, Mosley-street, Manchester, 1; Henry Lees, 36, Fremestreet, Manchester, 1.

**THE PATENT OXONITE COMPANY (Limited).**—Capital 20,000l., in shares of 5l. Object of this company is to carry on business as manufacturers of and dealers in explosives of every kind, also in every substance capable of being used as an explosive, or as part of an explosive compound. The subscribers (who take one share each) are—W. W. Backland, 46, Bemorly-road, Battersea; Edwin P. Ellis, 47, Park-road, Wandsworth; G. J. Mickelwright, 57, Galcon-road, Wandsworth Common; J. Gray Matteson, 2, Fenchurch Avenue; R. O'Gilvie, 12, Basinghall-street; James Lecky, major, 22, St. Swithin's-lane; George Pennington, 12, Basinghall-street.

**THE PORTABLE ELECTRIC SAFETY-LAMP COMPANY (Limited).**—Capital 100,000l., in shares of 5l. The objects of this company are to carry on the business of manufacturers and dealers in lamps, lanterns, safety-lamps, and other appliances for supplying light by electricity, and generally any business in which the application of light by electricity may be useful or ornamental, or any other business of a like nature. The subscribers (who take one share each), are—William Howie, Leadenhall Buildings; William Johnston, Leadenhall Buildings, secretary; J. A. H. Drought, 15, Kensington Gardens-terrace, W.; W. H. Dunn, 27, Bishopsgate-street; Richard Hewlett, 31, Essex-street, Strand; M. H. Isaac, 39, Lombard-street; H. Elford, 364, New Cross-road.

**THE CHILWORTH GUNPOWDER COMPANY (Limited).**—Capital 100,000l., in shares of 20l. Established for the purpose of carrying on in the United Kingdom of Great Britain and Ireland and elsewhere the trade or business of manufacturers and dealers in explosives of all kinds, including in the term explosive anything defined and treated as an explosive by and under the Explosives Act of 1875. The subscribers (who take one share each) are—Lord Sudely, 7, Buckingham-gate; R. Bourke, M.P., 18, Montague-square; F. N. Heidenrath, Cologne; E. Krapfmeier, 6, Great Winchester-street; C. Marcus, 44, King William-street; W. O. Times, Hitchin; John Darlington, 1, Coleman-street.

## Meetings of Public Companies.

### MUNTZ'S METAL COMPANY (LIMITED).

The 22nd general meeting of shareholders was held on Monday, at the Great Western Hotel, Glasgow, Mr. JAFFRAY presided; and the other directors present were Messrs. H. Wiggan, M.P., P. A. Muntz, M.P., S. Barker, W. Middlemore, and G. Heaton. There was a moderate attendance of shareholders. The report and statement of accounts, which have already appeared in our columns, were taken as read.

The CHAIRMAN, in moving the adoption of the report, said the shareholders would notice that there was a slight improvement in the profit in the last year, amounting to about 5000l. The directors were, and he was sure the shareholders would be, somewhat surprised that in a year of so much trade depression and keenness of competition they were able to show such a result. That result was due much more to economy practised in the manufacture of the articles they turned out than to any increase of price or development of trading which had taken place in the 12 months; in fact, what applied to their company applied to nearly every manufacturing industry in the country, that in the present state of trade any living to be got out of it must be obtained by the application of labour saving and economical processes of manufacture. The only drawback in their balance-sheet this year was the state of the stock fluctuation suspense account. Their buildings, machinery, tools, and plant generally had been well maintained out of revenue; and the only fly in the pot of ointment was the state of the stock fluctuation suspense account. He had frequently from that chair explained what that account was. If there was an increase of value in their stock at the end of a year, they carried it to the credit of the suspense account instead of distributing it in profit, as some persons contended should be the case. If, on the other hand, the price of copper went below the standard of value they set up, they carried that decrease to the other side of the account. The "other side" of the account had increased from 50000l. odd last year to 22,000l., an increase of 17,000l. That looked very formidable, and when they considered that all produce—metallic, textile, provisions, and everything that entered into consumption or manufacture, had during the year decreased in value out of all proportion to the average of values, they would understand how a few thousand tons of copper would show the falling off he had mentioned. Now, while it might be taken for granted that, if they were breaking up the company, the assets would show on the wrong side to the extent of 22,000l. in this item; on the other side they had between 50000l. and 60000l. carried to a reserve fund, for which they had no use, except to protect against such incidental depressions as this, and they carried forward an undistributed balance of profit of between 11,000l. and 12,000l., so that they were pretty well hedged in from any loss from the stock fluctuation suspense account. It was utterly impossible that this depression of all produce should continue for ever. In the course of their 21 years' experience—for they had attained their majority—they had seen that such a suspense account amount to 40,000l. on the wrong side, and they had seen it 33,000l. on the right side. They saw, therefore, how the averages rose and fell, according to some accidental state of the market. He did not, however, conceal from himself and from the shareholders that a permanent depression would probably take place in the value of copper. There was a large supply of copper coming from America, and other sources of production were opening up, and this would probably effect a permanent reduction in the value of copper, not, they believed, to the extent they saw at present, but still a lower average of prices would probably rule. In view of that they had written off 30000l. from the suspense account this year, and if the present state of things continued, and their experience for some time was that a permanent reduction had taken place in the value of copper, they must meet that out of their resources, and he hoped they would be able to do so without affecting the 10 per cent. dividend. (Hear, hear.) That was the state of the case most frankly laid before them. They would see that one paragraph in the report stated that they had acquired the sole right to a patent for the manufacture of tubular coils. Those of them who knew anything about the manufacture of tubular coils would be aware that the usual system of making them was a most expensive and tedious process. By the two patents which they had, one of which they had the right to use, and the other being their own, they could draw any length of tube that was requisite. The length of a tube was previously determined to a great extent by the length of the mandril. In the system which the company now followed they dispensed altogether with a mandril, and drew the tubes 70 or 80 ft. long with a movable plug. That was the foundation of the tubular coil system they had now introduced. There was no joint or brazing required, and having a full length of tube they applied the system to the making of these coils. The process was at once simple and most effective. The shareholders had the opportunity of seeing samples of the tubes in the room, and he believed they would effect a revolution in that branch of trade. The rapidity with which they could turn them out was something remarkable. A very large circular tube was on view at the bottom of the room, and he might mention that an order came for five such tubes on a Thursday morning, and they were delivered in Nottingham on the Friday night. They also had received an order for the Nile expedition, and that was turned out almost as soon as the order was received; so that they might reasonably hope and expect that this new industry would add in some considerable degree to the prosperity of the company. (Hear, hear.) He had said that they had now arrived at their majority, and it might not be unprofitable just to look back on the history of the company for a minute or two, and see what it had done in the way of earning profit for the shareholders. They had in the 21 years paid in dividends 368,171l., representing an average dividend of 9½ per cent. If they took 5 per cent. as representing a fair dividend upon their invested capital, they had paid back all the capital of the company by the agency of the 4½ per cent. above the 5 per cent. They had written off from land and buildings in the same period 7548l., not necessarily, as he had before remarked, because there was any depreciation, in land especially; but in prosperous times it was well to lay aside a little in that direction, so that when they come to periods like the present they would not be hampered by any allocation of profit to such depreciation. From machinery they had written off 15,500l.; from stock fluctuation account, 52,000l.; from goodwill, 41,400l.; they had carried to reserve, 5369l.; and they had carried forward undistributed, 12,823l., making in all 502,812l. profits earned during the 21 years. (Applause.) It was a marvellous history. It showed an average profit which they had distributed, either in protecting their property or in dividends to the shareholders, of 24,000l. per annum. That was the state of the case, and he thought none who had entered the company, either early or late, had any reason to regret their connection with it. (Hear, hear.) He moved the approval of the report and statement of accounts.—Mr. H. WIGGIN, M.P., seconded the resolution.

Mr. PEARSON said it had been an almost invariable rule to write off something from land, buildings, machinery, and tools; but, he noticed that this year there was an increase of about 200l. in the value of land and buildings, and about 2000l. in machinery and tools. Was he to conclude that this was accounted for by the new patent? The explanation which had been given with regard to the stock fluctuation account was very satisfactory, because he presumed the stock was about the same quantity as usual, whether the price was high or low.

Mr. JAFFRAY said the increase in the value of land and buildings was partly caused by this new industry, and the same reason applied to the machinery and tools. They could not acquire a patent without paying for it, and the cost of the patent in question was included in the item. In reply to another shareholder, Mr. Jaffray further stated that they had a right to the sole use of the patent as long as they liked to use it.

A dividend for the last half-year at the rate of 10 per cent. per annum was then declared, and the retiring directors, Messrs. G. F.

Muntz and W. Middlemore—were re-elected. The auditors—Messrs. Turquand, Youngs, and Co.—were also reappointed.

Mr. YOUNG, in proposing a vote of thanks to the Chairman and directors, expressed his gratification at the manner in which the directors had been able to carry them so successfully through such an unfortunate year.—Mr. S. BOOTH seconded the resolution, and said he was glad the directors showed in so high a degree the qualities of great prudence and considerable enterprise.

Mr. P. A. MUNTZ, M.P., in responding, said he fully endorsed what the Chairman had said as to the past year's trading. They had had extremely keen competition, and had only been able to meet it by great economy in production, and in the management generally of the company's affairs.

### WHEAL UNY.

A sixteen-weekly meeting of shareholders was held on the mine on Tuesday. Mr. WALTER PIKE, (the purser) presided. Labour costs were 2683l. 8s.; merchants' bills to the end of February, 2062l. 10s.; a total of 4822l. 14s.: 50 tons, 7 cwt. of tin realised 2092l. 2s., a loss of 2725l. 12s., increasing the debit balance to 5718l. 2s.

In his report Capt. HAMBLEY regretted that circumstances had occurred which had interfered very considerably with the results they had anticipated and reasonably hoped for at the last meeting. This was in respect of the increase of water they had had for the past six weeks and still had to cope with. In regard to the work done at Hind's engine-shaft they had, since the meeting, cut plat at the 214, and sunk six feet below that level. The appearance, character, and worth of the lode at the deepest point reached were equal to anything seen since they had entered the granite. The lode was considerably wider than the shaft, and was worth for its length, 14 feet, 24l. per fathom. The lode in the end of the 214 fm. level was of the value of 12l. per fathom, and he anticipated a yet further improvement in continuing the drive. The lode in the old sump-shaft was sunk 5 fathoms below the 203 fm. level, and the lode was worth 20l. per fathom. Since the influx of water they had confined their operations above the 160 fm. level, chiefly on tribute, from which they were returning 4 tons of tin per week. There was no reason why this quantity should not be maintained. In reference to future operations it was necessary to state that should the adventurers deem it desirable to sink the engine-shaft, and test the lode in the granite that promised so much, especially by coming in contact with lodes south, there should be other means employed for coping with the water than they now had.

The CHAIRMAN observed that he must explain to them his reasons for having called them together three weeks earlier than usual. Within the last three weeks they had had a sudden rush of water, caused partly by excessive rains and partly by the stoppage of East Uny. This water had driven them step by step from the bottom of the mine. Owing to one shareholder relinquishing 260 shares, he had consulted with some of the local shareholders, and he thought it was his duty to call that meeting earlier to consider these two important points. It seemed hard, after reading the report of the mine that day—probably a better report had not been read for a long time—that they were so unfortunate as to have their valuable points under water. This was again a blow they had to sustain after partly recovering from the shock of the loss of a very large shareholder who held 1000 shares, and who somewhat threw them on their beam-ends. Another shareholder having relinquished, it was for the shareholders to say what should be done. The costs were brought up to the very last moment. They knew exactly how they stood, and, in order to meet people who might be inclined to relinquish their shares, he felt they ought to contemplate whether the adverse balance could not be wiped off. Many schemes had been talked of for continuing or rescuing the mine. The amount due on forfeited shares was 1403l. 1s.

A long discussion took place as to what should be done in respect of the financial position.

The CHAIRMAN said that Mr. Dingle could not pay 1s. in 1l. Every man who had relinquished was liable to pay his calls to the end of March.

Mr. BAIN: There are 3000 good shares to pay the calls to-day. I would suggest a call of 3l. per share, payable in three instalments. If the present shareholders do not face the actual liability I am one, and my partner, should certainly send in our relinquishments.

Mr. BARWELL seconded, and Mr. ALFRED LANYON said he was sorry to support a 3l. call on nearly 300 shares of his own. He was satisfied, however, it was the only business-like way in their own interests, and the only way in which they could proceed in the interests of the district generally.

The CHAIRMAN said they had just reached the point towards which they had been looking so long—the granite. If ever a few thousand pounds were required for proving the mine now was the time. Wheal Uny was in too good a district to be suspended.

Capt. HAMBLEY remarked he was sorry to meet them that day to report nearly 50 fms. of water in the bottom of the mine. Three weeks since the water was rising so rapidly that they could not cope with it working at 8½ strokes and burning 12 tons of coal per 24 hours. They decided to disengage the rods at the 150, leaving all the rods on the underlay idle and allowing the water to rise to the 160. They could now work 9 strokes a minute, while burning 8 tons a day. They had in this way saved 50l. per month. The prospects of the mine were good. There was a fine masterly lode in the bottom of Hind's engine-shaft. The best bunch of tin was in the old sump shaft. The produce was such that it would increase their average from 12½ to 13½. The lode had so improved in the granite that they could put the tin from the stamps into the hutch without calcining. He was sorry they were in this state just as they were about to prove the lode in the granite. If they were to change Hind's engine from a 70-in. to an 80-in., replacing pitwork from surface to the 130, the cost would be about 2000l. Their prospects warranted a certain expenditure in proving them.

The CHAIRMAN read the report which Captain Josiah Thomas made some time since, in which he spoke with much favour of tin being found in good quantities in the granite.

Ultimately a resolution was passed calling a special meeting for April 2nd, and appointing a special committee, consisting of Messrs. D. W. Bain, A. Lanyon, F. Harvey, and Barwell, to consider the state of the mine and report to the next meeting.

During subsequent discussion allusion was made to the practicability of acquiring, under certain conditions, East Uny sett, and this matter will be considered by the committee.

### CHARLES CAMMELL AND COMPANY (LIMITED).

The twenty-first annual meeting of shareholders of this company was held on Wednesday afternoon, at the Cyclops Works, Sheffield. Mr. GEORGE WILSON (managing director) presided, and there was a large attendance.

The CHAIRMAN in moving the adoption of the report (which showed that the net profits for the year have been 102,553l., and that the paid-up capital is 1,050,000l.), spoke of the success which had followed the efforts to obtain hematite ores in Cumberland direct from the royalties held by the company. He said the consumption of ore in the works at Workington amounted to upwards of 6000 tons a week, and the saving of getting ore at first cost thus became a very important matter. Alluding to the threatened strike in the coal trade, he said he was in favour of a sliding-scale as a just and equitable arrangement, but there was no hope of getting such a plan adopted at present. He however could not understand why the men should resort to a strike in opposition to the proposed reduction in wages. He mentioned the efforts being made by the company to deal with ingots of steel approaching 100 tons in weight, and contended that this company could not be charged with want of enterprise. They had done great things at Workington in the last year or two, and they were going to do still greater things at Sheffield.

A SHAREHOLDER enquired as to the effect an outbreak of war with Russia might have upon the company; but the CHAIRMAN declined to go into details. Their arrangement with the Russian Government was one eminently satisfactory to the directors.

The three retiring directors, Mr. T. Vickers (Manchester), Mr. Leo



(Odhams), and Mr. Schofield (Manchester), were re-elected, after the adoption of the report, and a dividend at the rate of 5 per cent. per annum on the ordinary shares was declared. Mr. Collier (Manchester) was re-appointed auditor.

#### WHEAL GRENVILLE MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Union-court, Old Broad-street, on Tuesday, Mr. R. W. GOULD in the chair.

Mr. D. JULYAN (the secretary) read the notice calling the meeting. The following report of the agents was taken as read:—

March 16.—We beg to hand you the following as our report of this mine:—The 205 is driven east of Gould's shaft 39 fms. 4 ft. 9 in., the lode in which is worth 51. per fathom, and likely to improve as we advance. The 190 east is driven 74 fms. 4 ft., the lode in which is worth 87. per fathom. The winze below said level, going down the back of the 205 end, is worth 201. per fathom. The stope in the back of said level is worth 87. per fathom. The 178 east is driven 143 fms. 2 ft. 6 in.; the end produces stamping work. The stope just behind said end is worth 151. per fathom. Two stopes in the back of the said level are worth together 161. per fathom; these stopes have greatly fallen off in value during the last month or two. The 165 east is driven 174 fms. 4 ft. 3 in., the lode in which produces low price tinstone. We expect an improvement here soon. The rise in back of said level produces low price tinstone. Two stopes in the back of said level are worth together 301. per fathom. The 165 west is driven 57 fms. 5 ft. 4 in., the lode in which is poor. We have done but little here since the last meeting. We found that the western shaft before us was draining down by its own accord; but since the wet season has come the water is gradually rising again. We may have to put up a short rise to communicate, as the ground is spent on the line of lode. The 150 east is driven 267 fms. 4 ft. 3 in., the lode in which produces occasional stones of tin; this end so far has been disappointing. Since the last meeting we have passed through a piece of ground about 5 fms. long, worth from 81. to 101. per fm. One stope in the back of the said level is worth 151. per fathom. The winze in the bottom of said level, going down on the 165 end, is down 7 fms. 1 ft. 10 in.; the lode produces stamping work. The 140, west of the western shaft, is driven 32 fms. 0 ft. 11 in., the lode in which is worth 101. per fathom. The 130 fm. level west is driven 65 fms. 4 ft. 6 in., the lode in which is worth 121. per fathom. The 120 west is driven 55 fms. 0 ft. 9 in., the lode in which is worth 61. per fathom. The 90 west winze on branch is down 12 fms. 1 ft. We have just struck the flat lode, not having been out through; we cannot say its value. When said winze is communicated with a tribute pitch in the back of the 120 it will well ventilate this part of the mine. We have 18 pitches at work by 56 men, at an average tribute of 9s. 6d. in 11. to be paid at the rate of 421. per ton for black tin. Since your last general meeting we have sold 141 tons 16 cwt. 0 qrs. 19 lbs. of tin, and although our eastern stopes have greatly fallen off we believe we shall be able to return about the same quantity (say) 36 tons a month. Taking the mine on the whole we are much in the same position as for some time past. Men employed, 170; boys and girls, 86; total, 256 persons.

The CHAIRMAN said he should not make any lengthened remarks on the present occasion, because all might be summed up in a few words. Wheal Grenville was very much in the same position it was when the shareholders last met together. Notwithstanding two or three lets or hindrances, one caused by the filling up of the bed of the calciner interfering somewhat with the produce there of tin, the production of tinstuff per month had been almost as great as in the previous quarter. Another discouraging feature was that during the first four months the average price realised for tinstuff was (although it was not expected at the last meeting) below the average price of the previous quarter. During the previous quarter they realised an average of 451. per ton, whereas, during the past 16 weeks, the average had been 441. 8s. 3d. These were the two or three little discouraging matters connected with the mine. Nevertheless, during the past quarter, the results of the working of the mine had been exceedingly satisfactory. If they examined the work which had been done at the mine they would see that the progress had been accelerated. During the previous three months an average driveage was effected about 16 or 17 fms. per month; during the past four months there had been a driveage of 76 fms., or an increase of between 2 and 3 fms. per month. The principal driveage had been on the 160 fm. level east. On two previous occasions Captain Hodge had expected something to turn up. It did not turn up during the past six weeks, but he was happy to supplement the agents' report by a letter, dated the 21st March, received from Capt. Hodge, in which he said:—"I am pleased to inform you that the lode in the 160 fm. level east end is greatly improved since my report sent to the shareholders. The forebreast shows a lode to-day worth fully 251. per fathom, and, judging from its appearance, I should say it is likely to improve." (Hear, hear.) That was the improvement which Capt. Hodge had been looking for some months. He had no doubt that, up to the present hour, that improvement had been fully maintained. What that improvement might mean he was not in a position to tell them; but Capt. Hodge thought the improvement so important that the directors thought they would be justified in asking him to take a journey to London, in order that if the shareholders had any questions to put he might be here to answer them, and accordingly Capt. Hodge was present to-day for the purpose. The figures during the past quarter were very satisfactory. Looking to the reports from many other mines during the past six weeks, it was a matter of congratulation to the shareholders of Wheal Grenville that, notwithstanding the lower price of tin the committee were able to appear before them to-day with a better state of figures than upon past occasions, and were able to divide 2s. 6d. per share. (Hear, hear.) One hundred and forty one tons of tin had been sold, which had realised an average of 441. 8s. 3d. per ton, against an average, as he had said, of 451. per ton for the previous quarter. On the other side of the accounts, the merchants' liabilities had amounted to 38641., and the office expenses, bank charges, lords' dues, &c., to 2961. 1s. 11d., which would leave a profit upon the working of the quarter of 7291. 1s. 11d., that profit in the quarter being no less than 51. 2s. 9d. per ton upon the tin returned, which was about as good as was shown by any mine in Cornwall. (Hear, hear.) There were no liabilities. The accounts were charged up particularly closely, and the only thing which they were liable for were lords' dues, 2091. 1s. 4d. The balance in favour of the mine was 12561. 18s. 2d., the assets being 45761. 19s. 6d. It was a satisfactory state of things to be able to show a dividend in the face of the two or three little lets and hindrances they had had, and having regard also to the improvement which had taken place in the mine, he thought he might fairly hope that the next time they met they would be able to show equal, if not better, results. (Cheers.) He moved that the statement of accounts and the agents' report be received, approved, and adopted. Mr. WYSE seconded the motion, which was carried.

On the motion of the CHAIRMAN, seconded by Mr. BELLINGHAM, a dividend of 2s. 6d. per share was declared, payable forthwith, to the shareholders whose names were on the register of members that day.

The CHAIRMAN said the committee were not fond (and the shareholders would bear him out in what he said) of making use of any improvement which was said to have taken place between the time of issuing a report, and the time of the general meeting. Under ordinary circumstances the shareholders would not have heard to-day of any improvement at all in Wheal Grenville, but the improvement in the 160 east having been expected, and the shareholders having been led to expect it, not only at the last general meeting, but at previous meetings, the committee felt that they could not do otherwise than bring the facts which were known to themselves before the shareholders. The improvement was the most important they had ever had, and, therefore, he was sure they would be glad to listen to anything which Capt. Hodge had to say upon the matter.

Mr. LANE asked Captain Hodge how far they had extended the levels from end to end, east and west, since he had been agent?—

Capt. HODGE said about 430 to 440 fms.

The CHAIRMAN said that perhaps Capt. Hodge would explain to the meeting the improvement which had taken place.

Capt. HODGE said they expected an improvement in the 150 when they got near the cross-course; but he could not then tell the distance, because he had never seen it. They had driven 130 or 140 fms., but it had not improved except in one place, but a good part of it would pay with a moderate price for tin. But the lode which they had now got into was worth, he should say, fully 301. per fm., and might be worth 351. per fathom.

A SHAREHOLDER: What was the value of the lode three weeks ago?—Capt. HODGE: Next to nothing.

The CHAIRMAN: It was then only producing occasional stones of tin.

Mr. LANE said the improvement was of great importance to the mine. They were getting near the west end of West Frances, and also near the eastern extent of Wheal Grenville.

A SHAREHOLDER: Is the improvement likely to last?—Capt. HODGE: I think so.

The CHAIRMAN said the last improvement of really any note in Wheal Grenville took place a long time ago in the same level, at least 160 or 170 fms. behind where they were now, and there a very important improvement took place, and they had a run, or pipe, or ribbon of ore. He had questioned Capt. Hodge on this point before the meeting, and, if he understood Capt. Hodge rightly, the present improvement was much more valuable and more important, as the tin appeared to be more compressed, and, therefore, a very much less quantity would require to be stamped or crushed. Where they had to crush 300 tons from the former improvement they might now not have to crush half that amount to get the same quantity of tin, because it was more concentrated. His hope was that they would get it for 10 or 20 fms.; and then they would have a mine there. The next level (the 165) was not so very far between; so, if they get a run of tin ground, they might look for it to extend upwards, and it would be years before they saw the end of it.

On the motion of the CHAIRMAN, seconded by Mr. BUMPAS, a vote of thanks was passed to the Chairman and directors, and the meeting broke up.

#### WEST GODOLPHIN MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Union-court, Old Broad-street, on Tuesday, Mr. F. G. LANE in the chair.

Mr. D. JULYAN (the secretary) read the notice calling the meeting. The report of the agent, which was taken as read, was as follows:—

March 17.—We beg to hand you the following report of this mine for the general meeting, fixed for the 24th inst.—Caunter Lode: The 92 is farther advanced south-east towards Pink lode 11 fms., making the total distance from the engine-shaft 31 fms. We have been and are still driving on the western division of the lode, the eastern part remaining untouched, divided by a horse of granite, the value of which is not known for a length of 5 fms. We purpose to continue on until we drain the water, to resume sinking the winze above, and open up Pink lode west. This accomplished with the communication of the winze we shall turn our attention to proving the part standing east, and open up east on Pink lode. We have had a hard and twisty channel of ground to get through for the past few fathoms, which is characteristic around Pink lode in most of the upper levels where the lode is found productive. We have about 6 ft. now to advance to cut Pink lode, and from the above we have good grounds to hope for cutting it productive in this level. The lode in the present end is small. The 92 is advanced north-west 12 fms., making the total driven from the engine-shaft 30 fms. The lode in the end is 5 ft. wide, principally made up of quartz. We do not expect any appreciable improvement here until we have reached the junction (now distant 5 fms.), and driven a few fathoms both east and west of same. We come to this conclusion from carefully examining the point of junction in the upper levels, where the lode stands entire for a few fathoms—principally of quartz in a large lode, while the tin-bearing ground taken away stretches approximately both sides, about in all 80 fms. in length. A winze has been sunk below the 80 on the junction 3 fms. 3 ft. 6 in.; the portion of the caunter lode carried is poor; the part of Pink lode carried yielding fine stones of tin, and so far as seen a profitable lode. We are waiting to cut down the water in the 92 here, in order to resume sinking. Pink Lode: The 80 west is advanced 5 fms., and is now at a point of being up to the run of tin ground opened in the 50 west; the lode has just passed through a crossing, which has enlarged the lode considerably, although it is not productive, but split up. Directly west of the crossing there are two promising branches leading westwards on the foot and hanging walls, which are as we advance rapidly coming together, indicative of nearing a change, and we hope we shall soon be into productive ground. We have had nothing so promising here since we passed through the first bunch of tin near the caunter. The 70 fm. level, east of Roberts' stope, has been driven 3 fms., the lode in the end producing saving work for tin. We purpose to push this end on again at some opportune time. The 60 fathom level east has been extended in all 5 fathoms from the caunter—4 fathoms since your last meeting. The lode in the end is 2 ft. wide, and yielding occasional stones of tin. The 70 stope from below will now prove the ground to the east, and if required we can soon push this end on for ventilation. The 50 west has been advanced 10 fathoms; the lode in the end is 3 ft. wide, and yielding occasional stones of tin. We have a portion of the cross-course now in the end, which standing out parallel carried a lookan in the killas country around Bellingham's lode, but here we have Pink lode in granite; this cross-course has been disappointing so far. We had hoped to have opened out a good run of tin, which at our last meeting was in a lode worth 121. per fathom, but still we must persevere and go on a few fathoms to get through the cross-course and prove the lode west of it, for we have a good chance to find it making productive west, and also we expect soon to cut killas, where we can still see what effect the junction of these two channels of ground will have on the lode. Neither junction of these strata have yet been seen in the mine on this lode. A winze has been sunk below the 50 at a point about 8 fathoms behind the end; the lode in the bottom is disordered and poor. This is suspended. In Roberts' stope we have sunk a winze 2 fathoms, and from the 70 put up a rise which is correctly communicated, affording good ventilation, and getting the stuff away from the stopes in the most economical manner. Roberts' stope in the back of the 70 east is worth 71. per fathom. The stope in the back of the 80 west is improved, and worth 151. per fathom. A winze below the 50 west is worth 51. per fathom. A winze below the 40 west is worth 51. per fathom. A stope in the back of the 40, west of caunter, is improved, and worth 101. per fathom. A stope in the back of the 40, east of rise, is worth 71. per fathom.—Bellingham's Lode: The 70 fathom level east is advanced 61 fathoms in the last 9 ft. passed through, the lode having increased in size from 5 to 10 ft. Just behind the end we passed a cross-course, which we conclude to be the one we have been aiming at. Directly we passed this the change is apparent in the country and the lode, with the increase of water issuing therefrom. Where first cut into (this "great" lode) it yielded a mass of sulphuric mundic, embedded in chlorite or peacl much decomposed, probably by being so near the cross-course, with the recoil of water checked by the same, and consequently without tin. As we are advancing the mundic is becoming less, the peach more hardened, and the lode yielding tin, and from the extreme forebreast to-day it is improved, and now yielding saving work for tin. We are carrying 6 ft. of the lode in the end on the footwall part, and shall cut through it after advancing a few fathoms to prove the part standing south. It is now a hopeful point of great interest, as this end advances to discover what is in store for us, for we have 100 fathoms of backs and 360 fathoms standing eastward to our boundary undeveloped. During the past 16 weeks we have sold 27 tons 8 cwt. 1 qr. 5 lbs. of black tin, an increased output on the last quarter, without increasing our costs, which is sufficient to prove that as the mine becomes more developed the mine is becoming so far better supporting, and had we the price of tin that has ruled since we commenced working, we should have shown a profit. Judging from the appearance of the mine to-day we think we can return in the next quarter about the same quantity of tin per month as now. It is premature to say that

we have a paying property, but a very little improvement would turn the scales. We think that after we are in full swing on Pink at the 92, Bellingham's lode at the 92, and the 70 east, there is a probability of making your property pay. A good improvement in either of these points could be soon turned to good account, as long as our present points of operation continue to yield as to-day. In conclusion, we most heartily wish that you may have a remunerative property here, and with equal progress in the future as the past we shall ultimately succeed. The machinery is kept in good repair, and working well. Men employed, 78; boys and girls, 22; total, 100 persons.

The CHAIRMAN congratulated the shareholders on the improved prospects of the mine since the last meeting, as was evidenced, not only from the returns of tin, but also by the statements in the agents' report. During the past quarter the returns of tin had been about 14 tons in excess of the previous quarter, but that was for four weeks more. At the same time, the returns had exceeded not only the returns made at the last meeting, but even the agents' anticipations. (Hear.) At the last meeting he stated they hoped to be able to return 61 tons of tin per month for the coming quarter; they had exceeded that quantity, and had returned nearly 7 tons. The price had not been so large as previously obtained; but it would be satisfactory to the shareholders to know that this mine was obtaining the best price for tin of any mine in Cornwall. (Hear, hear.) The cost of obtaining the tin had not sensibly increased. They were working at a cost of about 4001. per month, although the levels had been extended more. They were working with the utmost energy, and pushing on the ends as fast as possible. The development had been altogether of a very satisfactory nature, and they were on the point of attaining what they had been looking forward to for some considerable time—the cutting of the Pink lode at the 92 fm. level south-east, and the intersection of Bellingham's lode at the 92 fathom level north-west, and also cutting the cross-course at Bellingham's lode in 70 east. The progress on the caunter lode on the 92 had been a little retarded by the hardness of the ground but this was a favourable feature, because on all the levels above the ground had been hard, and they had had productive lodes. From what had occurred before they might expect to have soon an improvement there. The Pink lode in the 50, 70, and 80 had made good progress, and the returns from those points had also been satisfactory. They were looking in a great measure to an improvement in the 70 on Bellingham's lode; during the last month that lode had shown evidence of a great change. That change had taken place in a large deposit of mundic, and they might hope and trust that the improvement would be of a satisfactory nature. The agent believed it would be the intersection on the cross-course to the east, and in this they expected to find productive of tin. There was an improvement in the general character of this lode—they were getting more peach and less mundic in the end. In the Wheal Grenville, where they had the improvement, the lode was composed more of peach, and it was in the peach ground that the tin infallibly made in Wheal Grenville. Although Wheal Grenville was a great success, he considered that West Godolphin would be equally good. Wheal Grenville had been worked over 40 years; West Godolphin had not been working for more than 20 years. The tin was more concentrated in West Godolphin. He went on to describe the lie of the lodes in the locality, and said that if they did not find the lode in the 92 productive they must go deeper, as there was every evidence that the lode would make in depth. He went on to say that the stopes which had been worked had produced a fair quantity of ore during the past quarter, and, from the present appearances, he thought they would have an equal return in the coming months as in the past months, which would leave only a small balance to the debit on the working. The mine was progressing in a satisfactory manner, and he must congratulate the shareholders upon the present appearance of the mine. (Cheers.) He moved that the accounts and the agents' report be received and adopted.—Mr. BELLINGHAM seconded the motion.

Capt. HODGE, in reply to questions, said the appearance of the mine was much better now than when he took charge of it. They were returning double the quantity of tin. At Great Work they got their riches at about the same depth that they now were in West Godolphin. As to the Bellingham lode it was most favourable. On the whole the mine held out very good promise, and no doubt would be worked to a profit very soon. (Hear, hear.) The mine was looking better to-day than ever before, and had returned more tin.

Mr. GOULD said that what had taken place in West Godolphin had not been a failure. They had spent 4001. a month for four months. On the other side of the accounts the return commenced with 2921., showing a loss of 1081.; the next return was 2951., a slight increase; in the month following it was 3251.; and the next month a considerable increase, the return being 3401. This showed the steady increase which was being made in the returns, and therefore he did not look upon the results of the 16 weeks' work as a failure. (Hear.) There was much in the present report of a very encouraging nature, and looking at the improvement which had taken place there was every reason to hope that the position would soon be turned from one of small loss to considerable profit.

The CHAIRMAN said that if they had got the same price for tin as in 1883 the present account would have shown a profit. A little improvement in the mine would enable them to declare dividends.

After some further discussion on points of detail the resolution was put to the meeting and carried.

A call of 1s. per share was then made, payable on or before the 21st April.

A vote of thanks to the Chairman and directors closed the meeting.

#### SOUTH TOLCARNE MINE.

An ordinary general meeting of shareholders was held at the offices of the company, Great St. Helens, on Wednesday,

Mr. CHARLES CLARK in the chair.

The CHAIRMAN read the following report from Capt. Jennings:—

March 25.—As instructed at our last meeting, we have pushed on the 80 west, and have driven about 30 fms., the last 10 fms. of which has been worth from 51. to 81. per fathom. The present end is not worth quite so much, as it is a little disordered. It was disordered in the same way in the 70 above, and after driving a short distance it improved very much for copper and tin in that level. We may expect the same in the 80; it is at present worth for tin and copper 41. per fathom. The driveage is set for 21. 151. per fathom. The 80 cross-cut south is driven 13 fathoms from Fraser's lode. We expect to intersect the flat lode shortly. The 70 east on the flat lode is driven 18 fms. from shaft. The lode is very large, and produces occasionally some rich stones of tin. We look upon this as a trial level on the flat lode, which traverses the sett from end to end, and which has had very little work done on it as yet. No doubt but that a good course of tin will yet be met with as we advance this level. In the 70 west on Fraser's lode we are not working steadily. The lode as far as seen is 6 ft. wide, and worth from 81. to 101. per fathom for tin and copper; it is of a most promising character, and should be pushed on vigorously. The 60 fathom level west is not quite so good a lode, but will certainly improve as the end advances; it is worth now about 51. per fathom, producing rich copper and tin. We have set Taylor's bottoms on tribute for tin. We have driven the 46 east 27 fms. from shaft; the lode is now 4 ft. wide, looking well, and producing good stones of copper and tin. It will take about three months more to get under the ground that was so productive in the level above. The 36 cross-cut south has been pushed on as rapidly as possible; it is now in 86 fms. from the gossan lode. We have intersected several branches since the last meeting. One was very rich for tin, and when this strikes the flat lode in depth it will no doubt produce a larger deposit of tin. We calculate that it should intersect it about the 60 or 70. Another branch, 10 fms. beyond this (1 ft. wide), also carries tin. We are expecting to intersect Fraser's lode almost daily. We have sold 8501. worth of copper and tin since the last meeting, and we have now about 1201. worth of copper broken. For the next four months I should advise that the 80 cross-cut south be continued to cut the flat lode; that the 70 east on the flat lode be driven vigorously; that the 80, 70, and 60



west be driven on Fraser's lode, and that the 46 east on gossan lode, and the 36 cross-cut south (to cut Fraser's lode), be driven. The cost of doing this work will be about 400*l.* per month, and the returns will be about 150*l.* per month, unless the western ground improve, when the returns will be considerably increased.

Capt. JENNINGS also gave a further explanation of the condition of affairs in answer to questions put by various adventurers.

The CHAIRMAN said that little remained for him to say after what had been said by Capt. Jennings in reference to the position; but it was quite impossible for the committee to avoid making some reference to the statement of accounts. It was a matter of sincere and deep regret to them that the aspect of the accounts was not more favourable. They had known all along from the time of the last meeting that the operations of the last four or five months must necessarily leave a loss; but it was hoped that the returns would have been such as to make the loss much lighter than it had proved to be. The causes of loss were not far to seek. Great depression as regarded the price of minerals had prevailed during the past six months. The price of tin had been at the lowest point that had been known, and it had been utterly impossible for this mine to raise tin at a profit, and it had of course to some extent reduced the profits upon copper. In accordance with a resolution passed at the last meeting no stopping whatever had been done on the adventurers' account since the beginning of November, and all the ore that had been raised had been raised by tributers. Therefore, the estimate of cost brought forward by Capt. Jennings at the last meeting and the estimate of returns had been substantially adhered to. The estimate of cost had been 450*l.* per month, and the returns at 150*l.* The results of the last five months showed but little variation from that amount. The sale of tinstone had been very small. In fact, this was the first occasion upon which tin had been sold in the stone. This small amount had also been raised on tribute, and it was necessary to say that they could have raised a very much larger quantity of tinstone similar to what was sold in former years, yielding from 28 to 30 lbs. of tin to 1 ton of stuff, but at the prices which had recently been ruling it was impossible to make a profit on tinstone of that quality. It was, therefore, thought better to leave it where it was until there came an opportunity of raising it and selling it to advantage at a price (say) 10*l.* or 12*l.* per ton higher than it was now. As to the future course of the market for that mineral it would be idle for him to speculate. They knew that statistically the position of that article was as strong as anything could be, and they knew also that there was a powerful influence always at work which enabled their customers the smelters to rule the market to a large extent, independently of the statistical position altogether. There were some very shrewd observers who believed that the period of depression in tin had come to an end. He hoped that that might prove to be true. If it were true it would make all the difference in the world to this company, because they would be enabled to go on raising from easy ground very considerable quantities of tin, such as were known to exist at the present time. The yield of copper had paid very fairly notwithstanding the depression, and had yielded to the adventurers a profit of 8*l.* or 9*l.* a ton, and that was a result upon which he thought they might fairly congratulate themselves. During the last fortnight the mine had been twice inspected by Capt. Hodge, of the neighbouring Wheal Grenville Mine, who went down on behalf of shareholders on each occasion, and by the courtesy of Capt. Hodge he was enabled to lay before them a summary of the report which he presented the other day, and which was as follows:—

The mine cannot be carried on except at a loss of 250*l.* to 300*l.* per month. But we consider the mine holds out good promise. As the western ends are extended west your returns are likely to increase. The 70 fathom level east in the flat lode should be driven by a full party of men for a trial level in the undeveloped ground standing out in that direction of the property. A good discovery of tin would soon open out an extensive mine, the benefit of which could be quickly turned to good account, seeing that the mine is so amply provided with dressing appliances. The rich dropper of tin now seen in the 36 cross-cut south of gossan lode warrants a vigorous trial in this direction. This cross-cut will intersect Fraser's lode at a point about 60 fathoms east of the furthest level developed from the engine-shaft, which is affording a good speculation for a large section of undeveloped ground remaining on Fraser's lode. He (the Chairman) had also had an interview with Capt. Hodge on the previous day, and his opinion was that the prospects before the company both in the 36 cross-cut south and on the flat lode were so good that it would be madness not to push on vigorously at those two points. There was reference in the report of Capt. Hodge, and also in the report of Capt. Jennings, to what it had been customary to call the western ground, and until yesterday he had strong expectations of being able to tell them that they were working satisfactorily under their arrangement with the Condarrow. There was no dispute whatever as to the terms on which the ground was to be worked. The terms as now arranged were much more favourable to this mine than they were when the matter was mentioned at the former meeting in October, inasmuch as this company was to have 15*l.* in 1*l.* for all its sales, the South Condarrow Mine taking 5*l.* The landlord of the South Tolcarne, Sir Veyell Vyvyan, stipulated that he should be paid half dues, and an attempt had been made to get Mr. Pendarves to pay that half instead of settling it all on this mine. Sir Veyell Vyvyan was no doubt within his rights, though the company would have been glad to get off on easier terms, but an impediment to pushing on with the western ground arose from a further requirement made by Sir Veyell Vyvyan—that the company should obtain from Mr. Pendarves the sett of Tolcarne Vein lying to the north-west of their present sett. Mr. Pendarves had practically agreed to give them that ground as soon as they were ready to work it, that was the position in which the matter stood at the present day, and he had no doubt that any difficulties would be overcome. Sir Veyell Vyvyan, it must be remembered, was dealing with a property from which he does not at present derive revenue, though he had rights in respect of it, for the proper exercise of which he would probably be held responsible by other people, and he did not think that Sir Veyell was in any way to blame for seeking to protect interests which were not, and could not, be exclusively his own, although they were under his charge for the time being. Tolcarne Vein as regarded its minerals belonged equally to Sir Veyell Vyvyan and Mr. Pendarves, and it was of the greatest importance that the arrangement between them should be completed with the least possible delay. Coming back again to the statement of accounts, as regarded the appearance of the property itself, everything was looking reasonably well, and the relinquishments of shares which had been going on for some little time past were the most serious feature really in the whole affair. Up to yesterday the firm holding had been reduced by relinquishments to 2907 shares; but as against that statement might be set the very gratifying fact that one shareholder who had sent in a relinquishment of 300 shares had to-day handed in a letter withdrawing his relinquishment, together with a request to be allowed to continue amongst the adventurers. Of course, the committee had very great pleasure in acceding to that request, and he had been requested by another adventurer to send another letter of withdrawal, but he could not be allowed to withdraw on any such terms as he himself proposed. He thought it would be seen that at any rate there was nothing to be gained by acting in any way contrary to the advice which Capt. Jennings had given during the next three or four months, always assuming that satisfactory arrangements could be made in regard to the western ground. The Chairman concluded by moving the adoption of the statements of accounts, which showed a balance of 2348*l.* 7*l.* 9*d.* against the mine.

Mr. FRASER MACKINTOSH, M.P., seconded the motion, and said he considered it to be a great step in advance that the South Condarrow and this mine understood each other so well. Although the result of the five months' working might not appear satisfactory, he held that with the prospects before them they were not to be considered unsatisfactory. With regard to the relinquishment of shares he could only say as an original shareholder of 11 years' standing he should be very sorry himself to drop out of the mine just now, and he would be equally sorry to see anyone else drop out of it.

Mr. BURCH observed that upon the statement of accounts submitted the adventurers owed 1*l.* per share, and going on with the mine involved a further loss of 250*l.* a month. For his own part he

did not intend to accept further liability, and thought a more consistent policy would be not to go on exploring in these disastrous times, when, if ore were discovered it could not be wrought to much advantage. It would be more consistent with the preservation of their corpus to retrench their expenditure, and to conserve the deposits of ore which might exist in the mine when they were found. Their neighbours were much more powerful, and better able to bear the brunt of these explorations than they themselves were. Although their neighbours had undoubtedly been extremely kind to them, he could not help thinking that the adventurers of this company were a little bit in the position of the cat and the chestnuts; and he did not think himself that was a position which they ought to maintain. It would answer their neighbour's purpose to co-operate with this company in developing this mine, and, at all events, a very determined effort should be made to get them to see it in that light. He did not think it incumbent upon the adventurers to work the mine in times like the present. Sir Veyell Vyvyan must know that at present they had a very hard burden to bear; and if they appealed to him as a body of adventurers desirous of developing his ground for his benefit and their own, he thought more reasonable terms would be obtained. He suggested the appointment of a committee to confer with the committee of management of the Condarrow Mine, and that the mine be conducted at a loss not exceeding 100*l.* a month as a maximum. He also thought it advisable that the adventurers should be informed at the end of each month as to the number of shares which had been surrendered, together with the names of the adventurers so retiring.

Mr. BENSON also spoke concurring in the suggestions advanced by Mr. Burch.

The CHAIRMAN observed that the spirit of Mr. Burch's observations commended itself to his colleagues and himself. The committee of management had taken considerable trouble to ascertain the minimum cost at which the mine could be kept in efficient order pending negotiations, and that could not be done under some 180*l.* a month. Unless the pumping-engine were kept thoroughly well going the whole of the lower levels would be flooded, and the value to the adventurers of this enterprise would be gone. The object they all had in view would really be better served by allowing the committee of management to continue the negotiations which they had commenced, and which they considered to be in a hopeful state.

On the motion of Mr. BENSON, seconded by Mr. SMITH, the committee of management was re-elected, and it was ultimately decided to adjourn the meeting for a month in order that the committee might further negotiate with the committee of management of the Condarrow Mine.

#### NACUPAI GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company, Queen-street-place, on Monday, for the purpose of proposing resolutions having for their effect the reconstruction of the company.

Mr. VAN RAALTE: Gentlemen, I regret that I am suffering from hoarseness, which will prevent my addressing you to-day; but I will, with your permission, ask my friend, Mr. Lee, who knows all about the past history of the company, to take the chair.—Mr. IONIDES seconded the proposition, which was carried, and Mr. J. C. F. LEE took the chair.

The CHAIRMAN: I cannot say that I know all about the past history of the company, but I have pleasure in accepting your invitation to take the chair. I hope we shall not touch upon the past to-day.

Mr. J. GARLAND (the secretary) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, I think I can certify that this is a duly-constituted meeting. I see the room is more than full; and now, with your permission, we will proceed to the business for which you are brought here. Before we do that, however, I should like to enter into a personal explanation as to the reason why I find myself here. As I stated just now I do not know much of the past of your company; but I was called in by some of the larger shareholders to advise them whether it would be a safe proceeding to attempt to rescue the company from the grave danger in which it stood some months ago, in having the whole of the real estate in Venezuela seized in respect of certain mining debts, which you may be probably aware precede all claims on a mining property in that country, even debentures. After looking as carefully as I could into all the matters connected with the past history of the mine itself, and doing all I could to ascertain the value of the real estate that you have, I advised those gentlemen that it would be a safe proceeding to invest a sufficient sum of money to rescue the property from the position in which it stood. That is why I appear before you to-day, to justify the course I then advised, and that is one of the reasons of my being in the chair. Well, I think that is enough on the personal point. Now, we will proceed to the business of the meeting, which is to pass the resolutions you have heard read, and of which I have no doubt you have had sufficient notice to study them well. First, I should like to remove any question on a point upon which there seems to have been some doubt—that is, upon the question of the payment of 2*l.* per share on applying for them. If you will carefully read No. 2 resolution you will see that the new company is to be a company in 1*l.* shares, and that on the ordinary shares you take credit before you put anything in your books for 17*l.* paid up, and that upon a payment of 2*l.* per share on allotment the shareholder who makes the payment will become the owner of that share upon which 19*l.* will be credited in the books of the company, leaving 1*l.* to be called up to make a fully-paid share of 1*l.* Counsel in drawing the resolutions did not think it necessary to make them too long, but they are perfectly clear on that point. Whilst on the matter of the taking credit for a payment of 17*l.* paid up I think it necessary, especially as I am an engineer, to make this observation—that in mining as in all other matters people are in the habit of counting their chickens before they are hatched, and you will see that we shall have a capitalisation of 600,000*l.* I am here neither to condemn the proposal nor to justify it. It is a matter I have had nothing to do with. It has been settled by those who have the largest interest in the property, and because the capital of the old company was 600,000*l.* also, but no one can complain, as the fullest notice and publicity has been given to the matter. But I will proceed to give the reasons why I think it is fairly in the interests of you (the shareholders) who have not been a party to what I may say has necessarily been more or less of a private proceeding amongst the larger shareholders, that you should assist in saving the property. It is only due to the gentlemen who have been trying to rescue the property that I should refer to them publicly. There is M. Alexandre Lange, a distinguished gentleman in Paris, who represents a very large and influential body of the French shareholders, not only so, but of high social and financial distinction, who, I may say, thoroughly believe in this property as a property; there is Mr. Ionides, who lives in London, and represents other largely interested shareholders, who stand as high as our foreign friends socially and financially. I must also join the name of my friend, Major Seaver, who was at one time Inspector General of Mines to the Argentine Government, and there is our well-known friend, Mr. Van Raalte, whose efforts to bring this matter to a successful issue have been unceasing; and I must not omit to mention the name of Mr. Katinakis, who represents a very large interest in debentures and shares, who has been working continually for the preservation of the property. I have, therefore, after careful investigation, come forward to advise you to second what they have done in your interests, and to say that you ought to give us your unanimous vote to-day. I should, indeed, be very sorry for a single gentleman in this room not to endorse fully and cordially the resolutions which you have before you. There is nothing behindhand; there is nothing to conceal, and all that we have done has been done with the view of saving the property. It is true that if I were to refer to the past I might rake up a good many things which were rather unfortunate in connection with the unsuccessful development of the property, and also with regard to the course taken by the Government; but these matters are past and gone, and we can do no good by raking them up. In this con-

nection I may say that arrangements are now in progress which will have the effect of restoring 8-10ths of your possessions to you, and I hope soon that we shall get a little more restored. This is all due to the gentleman to whom I have referred, and whose efforts in the general interests of the shareholders have been unceasing. I ought also to refer to the efforts of Mr. Marogordato, the Chairman of the old company, who is here to-day, to give any explanation that you may want; but I say again that I hope you will look to the present and the future of the property and not to the past. I may also mention that I have derived a great deal of information from Capt. Gifford, a mining engineer in the employment of the Messrs. Taylor, who are also here to answer any questions. I spent three hours with Capt. Gifford, and after a long cross-examination he satisfied me as to the future of the property. It seems to be a first-class mining proposition. Of course, no man of sense will pretend to tell you exactly what will be found underground; but any engineer who knows the property will tell you that we have very good prospects. We are in a large gold-bearing area. Our friends, the Callao Company, are very successful, and our friends—though I do not know whether I should call them so yet—the Chile Company—are also working successfully; and another neighbouring mine—the Panama—sent home 3000 ozs. of gold last month. I think as business men that you should pay up the 3*l.* per share at once. There are 35,000*l.* of liabilities, and we hope we shall get enough money to sweep away everything, including the debentures, and to provide 50,000*l.* of working capital, with which to develop the property. It needs that amount, and that sum must be provided if you wish the working to be successful. You ought to know that your position as shareholders to-day is due to the forbearance—I may say the generous forbearance—of the debenture-holders. They might have foreclosed long ago, and have shut the shareholders out; but throughout the whole of the discussions which have taken place, I have always found them to be thoughtful of the interests of the shareholders. The debentures amount to 25,000*l.*, their holders could, of course, have taken possession of the whole property. I hope sincerely that you will respond to the appeal which I make to you, and that you will do your part in rescuing the property. Gentlemen, I hope to receive a unanimous vote, and that we shall be a united and strong company. (Loud applause.) I will now formally move the first resolution:—"That the company be wound-up voluntarily, and that a liquidator be appointed for the purpose of such winding up."—Mr. KATINAKIS seconded the resolution, which was put and carried unanimously without any discussion.

The CHAIRMAN then formally proposed the following resolutions *en bloc*:—

"That a new company be incorporated, with a capital of 600,000*l.*, consisting of 100,000 preference shares of 1*l.* each, and 500,000 ordinary shares of 1*l.* each, for the purpose of taking over the business, assets, rights, and liabilities of this company, the Memorandum and Articles of Association of such new company to be in the form already prepared in that behalf. That the liquidator be hereby authorised to enter into an arrangement, under the 161st section of the Companies Act, 1862, with the new company (when incorporated) for the sale and transfer to such company of the business, assets, and rights of this company, upon such terms as he shall think fit, subject nevertheless to the following conditions, namely:—1. That the new company shall take over the debts and liabilities and pay the costs of the winding-up of this company and indemnify the liquidator in respect of the same respectively.—2. That every member of this company shall be entitled to require the new company to allot to him or his nominee five 1*l.* preference shares in the new company for each 5*l.* preference share held by such member in this company, and one 1*l.* ordinary share in the new company for each 1*l.* ordinary share held by such member in this company, such shares in the new company to be issued and credited with 17*l.* as paid up thereon, but to be subject to the payment of 2*l.* on each such share on the allotment thereof, such share to be in satisfaction of all claims in respect of the share in this company in respect of which the same is allotted.—3. That each member to whom shares in the new company shall be issued, in exchange for or in respect of shares in this company as aforesaid, shall, if he be a creditor of this company, be entitled to set-off the debt due to him from this company, or a proportionate part thereof, against the amount, or a proportionate part of the amount, to be paid on allotment or otherwise in respect of the shares so to be allotted to him as aforesaid.—4. That a proper agreement be entered into between this company and the said liquidator of the one part, and the new company of the other part, for the purpose of giving effect to the foregoing conditions."

Mr. P. SECHIARI seconded the proposition, and the resolutions were unanimously agreed to.

Mr. JOHN MORRIS (solicitor) said it was necessary to take a poll; but as the shareholders had signed on entering the room, and had all voted for the resolution, and, as moreover, the directors held proxies representing three-fourths of the capital, that would be sufficient. (Hear, hear.)

The CHAIRMAN, in reply to a SHAREHOLDER, said the name of the old company would be retained, and that a liquidator would be suggested at the confirmatory meeting.

M. ALEXANDRE LANGE: Messieurs, les difficultés considérées presque insurmontables par les intéressés de Paris et de Londres au commencement de nos négociations se sont trouvées beaucoup applanies par la co-opération que nous a donnée l'homme honorable qui préside à ce meeting. Les difficultés qui pourrout surgir dans l'avenir diminuent d'importance à nos yeux par la certitude que nous avons tous aujourd'hui que Monsieur J. C. F. Lee, a accepté la Présidence du Conseil d'Administration—comme représentant les intéressés de Paris je vous demande que vous, dans les notes nos restions unies avec persévérance et ténacité pour arriver à triompher et obtenir la complète réussite de notre affaire. Je compte donc que vous voudrez bien vous joindre pour votre desin remerciements à notre président.—Mr. SECHIARI seconded, and the vote was passed.

The CHAIRMAN:—Gentlemen, we all know that there is nothing so gratifying to the man who does his best as to receive the thanks of his fellow-men, and I thank you very much for your vote of thanks. I can promise you this, that we shall proceed to work prudently and cautiously, as that is the only way to success in mining matters. You must never forget that at the best mining is but an adventure. In all old mining leases what are now called shareholders are described as adventurers, and for successful adventurers it is necessary to have courage, perseverance, and confidence, and I fully hope that if you, as shareholders, will continue to give your confidence to the new directors, and not cast your shares into the market at every 6*d.* rise, we may hope in time to make a success for you. (Applause.)

The meeting then closed.

#### YORKE PENINSULA MINING COMPANY (LIMITED).

An extraordinary general meeting of shareholders was held, on Wednesday, at the Cannon-street Hotel, for the purpose of confirming the resolutions passed at the general meeting held on March 10.

Mr. FREDERICK PETERSON WARD occupied the chair.

Mr. CHARLES GRAINGER (the secretary) read the notice calling the meeting.

The CHAIRMAN said the meeting to-day was purely a formal one, the object being to confirm the resolutions passed a fortnight ago. On that occasion the matters connected with the report were pretty fairly discussed, and he would not detain the shareholders to-day by any further observations. He would simply ask the secretary to read the resolutions, the confirmation of which would be moved and seconded, and he hoped carried unanimously.

Mr. GRAINGER then read the resolutions, as follows:—1. "That it is expedient to effect an amalgamation of this company with the Ravenscliff Mining Company (Limited).—2. "That, with a view thereto, this company be wound up voluntarily, and that Mr. Charles Grainger, and Mr. Frederick William Turner, be and they are hereby appointed liquidators."—3. That the agreement, dated the 25th day of February, 1885, and made between Edmund Tifford, on behalf of this company, of the first part, Henry Napier Chipp, on behalf of the debenture-holders of this company, of the second part, and



the Ravenscliff Mining Company (Limited), of the third part, submitted to this meeting be, and the same is hereby approved; and that the company's liquidators be, and they are hereby authorised, pursuant to section 161 of the Companies Act, 1862, to adopt the said agreement, and to carry the same into effect with such modifications, if any, as may seem to them expedient in the interests of this company."

The CHAIRMAN: Gentlemen, I now move that the resolutions which have just been read, and which were passed at the annual general meeting of the company held on March 10, be and hereby are confirmed.—A SHAREHOLDER seconded the resolution.

Mr. PRITCHARD said he should like to say a word or two before the confirmation of the resolutions. He was present at the last meeting, and raised a few objections then. He thought it was hard upon the Yorkshire Peninsula shareholders that they had no way of getting rid of the property except by incurring a liability of 15s. per share upon the ordinary shares, and 10s. per share upon the preference shares; and knowing the price at which the shares of the gold mining company could be bought, if there was any price at all, it seemed to him that the shareholders were merely giving away the Yorkshire Peninsula Mine to another company. They were getting nothing in return. They were selling, but instead of the purchasers giving something in return, they asked the Yorkshire Peninsula to give something, and, indeed, to give a good deal. That appeared to him to be quite opposed to anything like commercial principle, taken in that light alone. The Yorkshire Peninsula had 130,000 shares, that was to say it had 130,000 of paid-up capital. That was a great deal, and they were selling the property to another company, with a capital of 27,000. It was like a sprat swallowing a whale. There seemed to him to be a great inconsistency in the whole bargain. Why should the shareholders be asked to pay anything for selling their property? If they must part with their property, and if the other company wished to have it, instead of asking the Yorkshire Peninsula to pay 15s. per share on the ordinary shares and 10s. per share on the preference shares, why should the other company not give the Yorkshire Peninsula shareholders one share for each preference share paid up, and one ordinary share for every four ordinary shares paid up? If this were done the other company would become interested without having to pay for it. At the last meeting the shareholders confirmed the resolutions without talking much about them. He came in late, or he should have said at that time all he was saying now. He thought there was something altogether inconsistent in the bargain they were making. It was no use his making any motion that the resolutions should not be confirmed, but he thought it incumbent upon him to express his dissent from the bargain. He had no doubt their worthy Chairman held proxies to overbear anything which he (the speaker) might propose; but he should certainly like to suggest that the present meeting be adjourned until the shareholders had reconsidered the proposition. If any shareholders thought the same as himself, perhaps they would be good enough to say so. He was a small shareholder amongst many; but he objected to the proposed resolutions on the ground that they were getting nothing for what they were selling. At the present moment they had no liability, except the moral liability, which he was sure all would be glad to meet, to repay the gentleman who had advanced money to the company. He held 80 preference and 50 ordinary shares. He came into that room free from any liability on these shares; but when he went out (if these resolutions were confirmed) he should have incurred a liability of 75s. If one-fourth of that sum, or even one-half of that sum, were wanted to carry on the undertaking, unless it was a perfect failure, he should have been happy to pay it. If they gave up the shares they could go into the market and purchase them at a cheaper price than they were now asked to pay.

A SHAREHOLDER asked whether the shares with 10s. paid up, bore any preference dividend?—The CHAIRMAN: No.

Mr. BROWN said he thought it important that the resolutions should be confirmed. It would be well for the Chairman to explain that unless this were done the company was hopelessly lost. There was really nothing else to be done.

A SHAREHOLDER: In the event of the ordinary shareholders not taking advantage of the shares in the new company, is it still intended to carry on the arrangement by distributing shares amongst the preference holders only?

Mr. JOHN NEWTON said that when he purchased the shares he thought he was investing in an Australian land company. He had no idea of entering into a purely mining company. His idea was that it would be a company available for colonisation, or building, or something of the kind. He always felt that the price of shares was not a matter of any moment to him, but at the same time he should like to protect them. He asked what would be the position of the preference shareholders who dissented in the proper and legal form, which he certainly should do in order to protect himself? He did not intend to submit to the principle of a call being made upon fully paid shares, because, as a practical matter, this became a call upon the fully paid shares. The shareholders were allowed no option under this scheme of dissenting from the payment of further money. It appeared to him that he was compelled to give up his shares entirely and absolutely, or to pay the other company some money. He did not intend to pay to the other company, which was a mining company; he wished to be a shareholder in a land company waiting for development. The directors should have given the shareholders the privilege, or rather the right, to take some part in fully paid-up shares, without imposing the necessity of taking shares which involved liability. His belief was that every shareholder had a right to his shares, and they could not take away the shares in the manner proposed. They should be fully paid-up shares for their existing shares, and then the opportunity or privilege of taking shares with some liability attached to it, and then they could have rectified the inequality of the preference and ordinary shares. He had always heard that the directors were a highly respectable body of gentlemen. At any rate he dissented from the proposed scheme, and asked whether it would not be possible to give the shareholders fully paid-up shares in the other company, and the privilege of taking further shares which were not fully paid?

The CHAIRMAN, in reply to a SHAREHOLDER, said that there were certainly two half-years' interest paid upon the debentures, and he believed three. They were not mortgage debentures.

Mr. PRITCHARD said he could not help contrasting the position of the two companies. He had valued the company, exclusive of the capital, at 96,942s., and besides that they had available ore to the amount of nearly 15,000 tons. He could not imagine but what they might, as an individual company, in some way or the other have pulled through. He recommended the shareholders to work it, and have nothing to do with the other company, in which they would incur a liability which the shareholders were opposed to.

The CHAIRMAN: You assume that.

Mr. PRITCHARD said the other company had a property only worth about 12,000s. The Yorkshire Peninsula Company ought to be the buyers. No doubt the Chairman and board of directors had done their best to pull the thing through, but something had failed.

The CHAIRMAN: The price of copper has failed us. That is the point of the whole thing.

The SECRETARY: I will make one remark. Suppose you take shares in this new company, for the preference shares you pay 10s. per share, and are liable to the company into which you go, and that money belongs to you as a shareholder in that company. For that other 10s. you get the assets of the Yorkshire Peninsula Company, which now exists, as well as those of the other company. You retain the interest you possess at present, and you get the benefit of the prospects of the future.

Mr. KEARTON said the secretary had partly anticipated what he was going to say. They must look at this thing as practical men. If they did not arrange with the bank, and the debenture-holders, they must give up the property. It seemed to him that the creation of new shares gave the present shareholders a chance. They would do well to accept this plan which had been put before them.

The CHAIRMAN expressed his regret that the observations which Mr. Pritchard had made to-day were not made at the last meeting. He was very sorry that the shareholders who had spoken to-day in an adverse sense had not acquired their lesson accurately. If they had studied the report they would have saved

the meeting many observations. They had not mastered the facts. One gentleman had objected to selling the company to the Ravenscliff, and another that they should have the option of taking fully paid-up shares. Now, he did not think the shareholders did their affairs any good, by putting things in the worst light. Why were the shares depressed in both companies? The Ravenscliff was in a good position as regarded assets to be obtained by proper expenditure, but that company had not the money. He explained at the last meeting that, in consequence of bad weather, two or three times the machinery had been injured, and the claims filled up by storms, and they were unable to pump out the water to the extent of more than 10 or 20 ft. in the deepest part. If the water were pumped out, it was believed there would be a large mass of gold there; and by combining the two companies the shareholders would get the benefit of the assets of both companies. They must not forget that the bank had got all the property. The royalty-holders seized the property, and the bank paid them off, and unless the property was taken out of the bank's hands the shareholders could do nothing. If they wished to save the property they must make some little sacrifice. (Hear, hear.) Unless they did that they would lose all the property. They must raise money to pay off the bank. Then there were the debenture-holders. The debenture-holders had a preference over all the others, and if the two classes of shareholders did not come to the front and assist in the matter the property would fall into the hands of the debenture-holders. The question was asked, What would be done if a certain number of the shareholders did not assent to the scheme? Well, the liquidators would deal with that according to circumstances. They would act according to their judgment when they saw the result of the applications for the shares. One gentleman said he came into this company as a landed company. Now this was the most extraordinary statement he had ever heard. What was the title of the company? The title was the Yorkshire Peninsula Mining Company. Where was the word "land"? As a matter of fact they had some small landed property. It was valuable mainly for building houses on for the use of the miners at the Barra Barra Mine; but when the mine stopped the value of the land decreased.

Mr. NEWTON: I think some of your reports refer to the question of land?

The CHAIRMAN said no doubt the land was referred to as an asset, and it was a good one, but the company had never been referred to as a land company. They had some 650 acres of land at Bon Accord. The plain truth was that the shareholders must put their shoulder to the wheel and help themselves. The directors had tried to get the shareholders to come forward voluntarily and help, but they would not do so, and most of the help had been given by the directors, by gentlemen on the committee, and a few outsiders. The directors were out of pocket for they had voluntarily advanced money without any security whatever. He did not reproach the shareholders. For many years they hoped for good things which did not come. It was the shareholders' fault that they did not come forward with sufficient readiness at the various times when the board appealed to them to make this company a success. The whole secret of the business was that copper had fallen; if copper had kept at the same price it was when the dividend was paid the company would be in a good position at the present time. The mine was a rich mine—richer than the Wallaroo, and as they went down the ore increased in richness, and at present the workings were in shallow depths. If shareholders had responded better in times gone by to the directors' proposals for raising capital the company would not have been in its present difficulties. The resolution was then put and carried, and the meeting broke up.

#### THE COST OF COLLIERY ACCIDENTS.

The twelfth annual meeting of the Lancashire and Cheshire Miners' Permanent Relief Society was held on Saturday afternoon last in the Wigan Mining School. Mr. W. PICKARD occupied the chair, and there was a large attendance. The report showed that the society had enrolled at the close of 1884 36,866 members. The ordinary revenue had produced 37,758s., and the expenditure had amounted to 33,513s., and there was an available balance of 37,543s. at the close of the year. During 1884 there were 7148 cases of disablement amongst the members, and 77 fatal accidents. These accidents placed on the funds 38 widows and 65 children, and at the close of the year 323 widows and 710 children were receiving annuities from the society. The ordinary members—miners and others employed about collieries—contributed to the society during the 12 months 29,776s., and colliery proprietors and honorary members 6672s. The payments included:—Funeral allowances on the death of members, 793s.; to widows of members, 4032s.; to children of members, 4739s.; on account of disablement of members, 16,598s.; and for medical assistance, 4553s.—The adoption of the report was moved by Mr. Alderman BRYHAM (Rose Bridge Collieries), who stated that since the society was started, in 1872, it had paid to members in disablement allowances the sum of 112,692s., and to widows and children of members accidentally killed at collieries 54,110s. During this period it had dealt with 63,709 cases of disablement from mining accidents and 859 cases of fatal accidents.—Mr. C. F. CLARK (Garswood Collieries) seconded the adoption of the report, which was agreed to.

RAPID TUNNEL DRIVING.—The distance accomplished last week by Colonel Beaumont's tunnelling machine through the red sandstone under the Mersey was 87 yards, which is the "fastest on record." The heading now being driven, and which is nearly completed, has a total length of about 950 yards, and this, as well as the previous heading of about 700 yards in length, is intended for effecting the ventilation of the main tunnel. The total distance driven by Colonel Beaumont's machine (which cuts a circular heading rather over 7 ft. in diameter) in connection with the Mersey Tunnel, is about 2250 yards, which includes the first operation—the boring of the drainage heading.

#### COPPER ORES.

Sampled March 4, and sold at the Royal Hotel, Truro, March 19.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols. 111	111	£1 8 0	South Caradon	25	£1 7 0
ditto 110	110	1 3 0	ditto 21	21	2 5 0
ditto 105	105	1 2 0	ditto 20	20	11 0 0
ditto 103	103	1 8 0	Holmbush	10	1 5 0
ditto 101	101	1 9 0	ditto 100	100	1 5 0
ditto 82	82	1 0 6	Bedford United	118	3 8 6
ditto 32	32	3 11 6	ditto 27	27	1 13 6
ditto 30	30	3 16 6	ditto 31	31	2 14 6
ditto 28	28	4 1 6	Gunnislake (Clitters)	87	3 19 6
South Caradon 75	75	2 15 0	ditto 61	61	3 16 0
ditto 70	70	2 18 6	Glasgow Caradon	80	3 10 0
ditto 68	68	3 2 6	Marke Valley	35	1 0 0
ditto 48	48	2 17 6	East Caradon	15	5 13 6

#### TOTAL PRODUCE.

Devon Great Con.	808	£1234 19 0	Gunnislake (Clit.)	148	£577 12 6
South Caradon	335	1570 5 0	Glasgow Caradon	80	280 0 0
Holmbush	218	297 9 0	Marke Valley	35	35 17 6
Bedford United	186	550 12 0	East Caradon	15	55 2 6

Average standard..... £ 82 6 0 | Average produce..... 6 ½  
Average price per ton..... £ 25 0  
Quantity of ore..... 1223 | Quantity of fine copper, 110 tons 15 cwt.  
Amount of money..... £ 4101 17 6  
LAST SALE.—Average standard, £ 84 13 0 | Average produce..... 5 ½  
Standard of corresponding sale last month, £ 84 0 0 | Produce, 6 ½

#### COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	37 ½	£ 803 7 6
P. Grenfell and Sons	291 ½	706 11 0
Nevill, Druce, and Co.	356 ½	451 9 0
Williams, Foster, and Co.	328	740 17 6
Elliott's Metal Company	206 ½	498 4 0
Charles Lambert	273	886 8 6
Total	1223	£ 4101 17 6

NO SALE on Thursday last.  
Copper Ores for sale at Tab's Hotel, Redruth, on Thursday next.—Mines and parcels.—Mellauar 505—Levant 293—New Cook's Kitchen 110—Violet Seton 22—West Police 5.—Total, 935 tons.

#### THE NORTH TRESKERBY TIN AND COPPER MINES (LIMITED).

The prospectus of this company has been issued this week, and certainly it may be said of it that it differs widely from others which have appeared comparatively recently. The main facts of interest to mining shareholders were published in the *Mining Journal* of the 7th inst., but additional evidence is to be found in the reports of several well-known mining engineers. The principal fact which above all others is of interest to intending shareholders is that the company at once becomes possessed of a property in the heart of the St. Agnes district, from which dividends may fairly be expected immediately. That is to say, all the preliminary proceedings and works are actually a *fait accompli*, the machinery is in working order, and the stamps are in course of delivery. For 3½ years have these works been in operation, so that the vendors have, to a more than usual extent, taken upon themselves the expense and liability of exploration. The result is that, at the present time, the only requirements are the stamps and dressing appliances, now in course of delivery, to heat the tin ore raised and in sight. The directors anticipate that, from present results and appearances, they will pay a dividend within six months of the erection of the dressing machinery. Messrs. Pryor and Son and John Tonkin, M.E., estimate that the profits of the full-working of the tin section alone, at the present value, for the first year to be 22,159s., or equal to 34 per cent. dividend on the whole capital. Other reports are supplied by Captain John Nicholls, M.E., and Mr. Robert Symons, C.E., of Truro. The capital of the company is 65,000s., in shares of 1s. each. The price to be paid to the vendors, Messrs. Grant and Co., who are the promoters of the company, for the leases (including the expenditure incurred in developing the property), plant, machinery, and stock of ore in warehouse, and all and every appurtenance to the property, is 40,000s., of which one-half is payable in 20,000 shares of the company, thus leaving an available working capital of 25,000s., which is considered ample for all purposes.

#### WATSON BROTHERS MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS, STOCK AND SHARE DEALERS, &c.,  
1, ST MICHAEL'S ALLEY, CORNHILL, LONDON.

The present state of mining is mainly owing to the price of metals; the fall in which no one could have foreseen, and which has been altogether unprecedented. Had anyone said a year or two ago that copper would fall to 45s. 10s. he would have been laughed at—yet it has done so, and for a time has paralysed copper mines. But when things are at their lowest they sometimes mend, and we must hope for the best. Any change for the better in the metal market, and sudden demand or rise in tin, copper, or lead, would create such excitement that a rise of from 20 to 50 per cent. might immediately take place in shares now utterly neglected; and for something of this kind we must patiently wait a little longer. Mining also has been very barren of discoveries of late, one or two such as we had in East Caradon, that sent shares up from 1s. 6d. to 60s., or that in Crebor, which sent shares in six months from 1s. 6d. to 13s., would cause a reaction, mines generally would revive, and a more active business set in. We have known things as bad before as they are now. The year 1854 was described as one of "unparalleled depression, and of almost unparalleled losses." A great many mines were abandoned in that year, and great losses incurred; so much so, that mining was thought to be hopelessly involved in ruin. Yet in 1855 there was an extraordinary reaction, and a great rise in shares, "owing," as we wrote at the time, "to the excellent discoveries made during the year, and to the important improvements in many mines." The dividends paid in 1855 in British mines amounted to 340,714s. 3s. 4d.

Let us hope that history may repeat itself, and that as 1854 has been as bad as 1854, 1885 may become ere long as good as 1855.

Another singular thing is that one of the causes of the panic in 1854—which in reality commenced in 1853—was the failure of the gold mines of California and Australia, which we had constantly cautioned our friends against. At the end of 1852 we referred to 13 companies of Australia and California, which then bore a market value of 2,700,000s., and at the end of 1853 were valueless and unsaleable. In 1882 and 1883 there was the rage for Indian gold mines, and which has ended in almost as great a loss, though gambling speculation to a very great extent has been going on in shares at very low prices for a long time past, to the exclusion in the market of *bona fide* and home mines.

The lode in the bottom of the engine-shaft at East Blue Hills has improved to 15s. per fathom.

The 144 driving west at Wheal Crebor has improved and worth 4 tons of copper ore and 1 ton munda per fathom. This the agents look upon as important—the level having been almost continuously in ore from the shaft, and is now approaching the large and productive lode gone down in the bottom of the 120 level, and all between, is whole ground.

We stated last week that several shareholders had written as wishing success to the plan we proposed in regard to Polrose; but that we had not learned the amount required, that some of the large shareholders had not responded, and that to make the purchase the cash would have to be paid down. The Registrar himself could not make an offer or state terms; but would consider any offer we had to make to him before the 27th. The shares agreeing to join in our proposal did not represent more than 500s., upon which we were not in a position to make an offer, and ourselves personally responsible for the large sum required.

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, has been:—Bombay (Limited), 6½; Brighton and House General Original, 37½; Buenos Ayres, New (Limited), 12½ to 12½; Continental Union (Limited), Original, 36½ to 37; ditto, Seven per Cent. Preference, 32; Gas Light and Coke A, Ordinary, 22½ to 22½; ditto H, Seven per Cent. Maximum, 149½; ditto, J, Ten per Cent. Preference, 23½ to 23½; ditto, Four per Cent. Debenture Stock, 109; Imperial Continental, 204½ to 206; Malta and Mediterranean (Limited), Ordinary, 4½; Metropolitan of Melbourne Five per Cent. Debentures, 1908-1910, 107½; Monte Video (Limited), 16½ to 16½; Oriental (Limited), 5½; Rio de Janeiro (Limited), 23½ to 23½; South Metropolitan, A, 263½; ditto, B, 221½. Gas stocks dull in sympathy with markets generally.

INSURANCE SHARES have, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance British and Foreign, 33½ to 34; ditto, Marine (Limited), 21½; Atlas, 15½; British and Foreign Marine (Limited), 21½; City of London Fire (Limited), ½ to ½; ditto, Marine Insurance Corporation (Limited), ½; Fire Insurance Association (Limited), ¼ to ¼; Guardian Fire and Life, 57 to 57½; London and Provincial Marine (Limited), 3½; North British and Mercantile, 28; Queen, 2; Thames and Mersey Marine (Limited), 10½ to 10½; Universal Marine (Limited), 6½ to 6½. Marine Companies flat, others unchanged.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. Wm. ASHOTT, of Tokenhouse-yard, are given in tabular form in the Stock and Share List page of the Journal.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 24—Pierrefitte	50	50	£ 9 10 6	Quirk, Barton, and Co.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 17—Tal-cere & Gronant	100	100	£ 3 15 0	Passon, Grenfell, &c.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 25—Phoenix United	11	11	£ 43 10 0	Redruth Co.
— ditto	11	11	43 10 0	Trevellick Co.



## Mining Correspondence.

## BRITISH MINES.

**BEDFORD UNITED.**—H. Trelease, March 24: There is nothing new to report on the north lode. The drive in the 138 east is being continued by the side of the lode. The shaftmen are making fair progress in sinking McCallan's shaft, which is now down 12 fms. below the 75. In the 75 east the lode is taken down close to the end; it is not quite so large, producing muddle and ore, but nothing to value. In the same level the lode is unproductive. In the 62 east the lode is larger, 3½ ft. wide, worth 5½ per fm. Three stops behind the end are worth 5½ per fm. each. The lode in the 62 west is looking more promising, yielding some good quality ore, and the channel of ground is very congenial for copper ore. Two stops behind the end are worth 4½ per fm. each. The lode in the 42 east is strong and masterly in appearance, composed of strong capels, muddle, spotted with ore. The several pitches throughout the mine continue to yield a satisfactory crop of ore.

**CARN LAMORNE.**—W. C. Vivian, March 26: In the 105, west of engine-shaft cross-cut, the changes in the granite indicating increasing proximity to the cross-course, we shall be in a much better position than we have ever yet been for thoroughly developing our ground northwards towards the Dolcoath lode, and southwards towards Wheel Harriett and Condurrow.

**CATHEDRAL CONSOLS.**—Stephen Davey, March 26: The lode in the two levels driving east and west on the south lode at the 84 are to-day looking better, especially westward, where the north part has taken a change, and is composed chiefly of friable quartz mixed with copper, and on the south part an ironstone with patches of black ore deposited therein; the eastern end is composed of black fluor-spar mixed with a little copper, but highly charged throughout with iron. The lode driving east of the shaft is larger, composed throughout with fluor-spar, and mixed with muddle and copper. Owing to the water being quick in the winzes at the 72 operations have been suspended for a while, or until the level below drains the water. The men have been removed to the 84, in order to open on the south lode as fast as possible; the engine is keeping the water at 5½ strokes per minute, and we have not any difficulty in raising sufficient steam.

**COED-Y-PEDW AND PANT-Y-BUARTH.**—R. Prince, March 26: I have nothing fresh of importance to report of any of our workings except those on Trevathem's string, where a very decided improvement has taken place. I have not seen a nicer show of lead in any part of the mine for some time.

**CRAYN MOOR UNITED.**—David Williams, March 26: The main cross-cut, north east from Blackhill adit level, is being pushed forward by a full complement of hands, and good progress continues to be made, and is now driven a distance of 40 fms. The general character of the country is such as to be very congenial for the production of lead ore as we approach the lodes in advance, which, coupled with the fact that all the branches of spar met with here are grey, we may reasonably expect the main lodes to be found productive at this depth, and have every prospect of draining and laying open for easy development a large section of profitable ore ground. The Blackhill adit level east, driven upon No. 2 vein, is now within a fathom of the heave, east of which a good course of ore was found in the upper levels; and the general appearance and condition of things indicate a similar result at this depth. But, on the whole, satisfaction is being made at all points towards bringing the concern into a self-supporting and profitable state. We have four pitches wrought on tribute at 4½ per ton of dressed ore.

**D'ERESBY.**—John Roberts, W. Sandoe, March 25: During the past month we have sunk 1 fm. in the shaft, and have stowed a great part of that ground for the whole length of the sump. The lode in the bottom of the shaft contains a great deal more blende than usual, which is closely associated with the lead, and, although it is more desirable to have the lead than the blende, yet we look upon the latter as all but a certain forerunner of the former, and we fully believe that a great improvement is close at hand. The last stop that we put over the sump did not yield the quantity of lead that we believed and fully expected it would do; but, when looked upon from the right point of view, there is nothing in it which should in any way discourage, as the lode is given to changes, and the next stop may be quite as rich as the lode was above where it was worth 6 or 7 tons of lead per ton. We have never had a stronger or a better looking lode for making lead than we have for the whole length of the sump at the present moment, and the lead-bearing part of it is bearing more and more to the hanging wall, thus widening as we go down. On the hanging side at No. 6, where we first cut the lead, we have been hitherto unable to work on account of the quickness of the water. We look upon this as an important point, because it is a continuation of the run of lead from surface to that point, and when we cut through it we had a splendid lode, which has not been touched in the bottom since. We purpose to send out samples directly for 15 tons of lead.

**DEVON GREAT CONSOLS.**—Isaac Richards, March 28: Wheel Harriett: In the eastern shaft sinking below adit on Capel Tor lode the lode is 3 ft. wide, of a very promising character, and is yielding good stones of copper and muddle ore.—Wheal Emma Railway Shaft, West South Lode: In the 220 west on the south part of the lode the drive is being carried by the side of the lode for more speedily progress.—Watson's: In the engine-shaft sinking below the 112 the ground is tolerably favourable for exploration, and congenial for the production of mineral. In the 112 east and west of the engine-shaft the drives are being carried by the side of the lode for more speedily progress. All the other points of operation throughout the mines are without important alteration.

**DRAKEWALLS UNITED.**—Thomas Gregory, March 25: The lode and branches in the engine-shaft sinking below the 102 fm. level maintain the value of 12½ per fathom, and the strata is very congenial for tin ore. We have commenced stopping from the late winze below the 60 fm. level in fair quality tin ground. The branches in the 50 fm. level, east of Matthews' shaft, are worth 8½ per fathom.—North Lode: The tram-road to these workings from the old mine are completed, all the stuff cleared, and the men are now taking down the lode, which is producing good tinstuff for the stamps.

**EAST BLUE HILLS.**—S. Bennetts, W. K. Mitchell, March 25: The lode in the bottom of the engine-shaft continues to look well; is rather improving in value as depth is increasing, and at present is worth 14½ to 15½ per fathom. In the 10 east end there is no change worthy of notice, and the adit east end is worth 5½ to 6½ per fathom. Two stops in the back of the 10 are worth respectively 7½ and 10½ per fathom. The falling off in the quantity of water for stamping purposes has this week necessitated the use of steam-power for that purpose.

**EAST TREGEBO.**—Edward Chegwain, March 24: In the adit cross-cut driving north we have driven in the past month 7 fms., and expect by the end of the present month to cut the north, or Tregebo lode. In the adit end, driving west of cross-cut on No. 1 lode, the lode is 2 ft. wide, and yields 7 tons of tin to the ton of tinstuff. In the adit end, driving east of cross-cut on No. 2 lode, the lode is 2½ ft. wide, value, 70 lbs. of tin to the ton of tinstuff. This end is opening up well.

**EAST WHEAL ROSE.**—W. Skewis, T. Doidge, March 24: North Wheel Rose: Owing to the shaft being so small we have been unable to drop the lift away into the water from the 120 to the 130 as expected, and reported in our last report, therefore we have had to make arrangements to drop a lift in Penrose's shaft, by which means we hope to drain the water to the 130, and so enable our taking up the 22 fathoms of 20-in. lift now standing to make room for a 30-fathom 18-in. lift, which will then reach the required depth—the bottom of downlight.—Penrose's: The water is forked to the 120, and bearer-holes cut, into which the bearers are now being fixed. A 10 fathom 20-in. lift is in course of preparation to drop into the water below this point. Also 10 fathoms of main rods and stays are also ready to send away. We hope to complete the whole by the end of the week, and proceed to drain the water to the 130. Baynard's shaft is now cased and divided, and ladder-road fixed complete from the 60 to the 90. Good progress is being made in driving the cross-cut to intersect Middleton's lode, and as the ground is becoming more favourable in the last few days we hope still to make greater progress.

**GAWTON.**—G. Rowe, March 23: The lode in the 117 east is 8 ft. wide, of a promising description, principally composed of strong capel, mixed with sulphur and arsenical muddle, and good stones of copper ore. The stops in the back of the 117 east will yield 9 tons of muddle and ore per fathom. The ground in the 105 cross-cut is mixed up with capel, spar, muddle, and a little copper ore. The lode in the stop in the back of the 105 east is yielding 10 tons of muddle per fathom. The stop in the bottom of the 95 east is yielding 8 tons of muddle per fathom. The stop in the back of the 55 east is yielding 7 tons of muddle per fathom. The stop in the back of the 70 east will yield 7 tons of muddle per fathom. The lode in the stop in bottom of 70, west of shaft, will yield 3 tons of muddle per fathom.

**GLASGOW CARADON CONSOLS.**—William Taylor, W. J. Taylor, March 23: There is no change to report in the 125 east, on old south lode, worth from 6½ to 8½ per fathom. We shall not do much more here until we sink a winze in the bottom of the 114, to prove the underlay of the new lode, and where to find it at this deeper level, which is most important.—New Lode: The 114 east is being pushed on by 12 men, and now worth 15½ per fathom, and easy for working. The rise in this level is up between 7 and 8 fms.—about 4½ fms. more to reach the old 102 fm. level. We think the new lode is very near it. We have eight men rising here, working all the time (stem time included), until communicated, which we hope to do in two or three weeks; the lode is worth 15½ per fathom. We are pushing this with the least delay possible, as we cannot do much in sinking below until the rise is put through for ventilation. The stops in the back of the 114 are worth 10½, 12½, and 15½ per fathom respectively. This new lode is opening out very well, making good discoveries of ore, and we hope soon to have other levels on it.

**GREAT HOLWAY.**—W. T. Harris, March 26: Roskell's Shaft: In the 95 north the ground continues favourable for progress, and the branch contains a nice mixture of carbonaceous lime and lead ore, and promising for an early improvement.—Level Engine-shaft Tributary: The 99 level east pitch is yielding 10 cwts. lead and 1 ton blende per fathom. No. 2 pitch in back is worth 8 cwts. lead and 1 ton blende per fathom. The 60 level, No. 1 pitch, in back west, is producing 16 cwts. lead and 1 ton blende per fathom. No. 2 pitch continues to look well, and worth quite as much as last reported—3 tons lead and 1½ ton blende per fathom. No. 3 pitch in bottom east is yielding 8 cwts. lead and 15 cwts. blende per fathom. No. 4 pitch in bottom east is producing 10 cwts. lead and 1½ ton blende per fathom. No. 5 pitch in back west is worth 15 cwts. lead and 2 tons blende per fathom. No. 6 pitch in back is producing 12 cwts. of lead and 15 cwts. blende per fathom. No. 7 pitch is worth 12 cwts. lead and 1 ton blende per fathom. No. 10 pitch, in the back, is yielding 10 cwts. lead and 1 ton blende per fathom.—Office Shaft: The 60 west, in No. 1 pitch, in the back, is producing 8 cwts. lead and 15 cwts. blende per fathom. No. 2 pitch is worth 10 cwts. lead and 15 cwts. blende per fathom.—Bramcock Shaft: The 60, east of No. 1 pitch, in back is yielding 15 cwts. lead and 1 ton blende per fathom. No. 2 pitch in back is producing 5 cwts. lead and 1 ton blende per fathom. Dressing and surface work making usual progress. Yesterday sampled 50 tons blende for sale April 1, and shall sell a good parcel of lead next week.

**GREEN HURTH.**—James Polglase, March 19: The bottom end is worth 3 tons per fathom. The 44 end north is the same as last reported. No. 1 stop is worth 8 tons per fathom. No. 2 stop is worth 4 tons per fathom. The 30 end north is producing good stones of lead. The drift north from rise, in back of the 30, is worth 1½ ton per fathom. The end north from rise, in back of trial drift level, the vein at this point is inclining rapidly to the west; I cannot state its value for a few days. South end from rise is not yielding much ore at the

present moment. The ends north and south are about the same in appearance. We have been dressing so far during the week, and the severest frost, &c., is against us for the present.

**HEALEYFIELD.**—John Trelease, March 20: The past week we have been undercutting the vein in our north stop, which you are aware is mostly off in the east side of our main level, and, judging from the indications, we are inclined to think it will be found productive in the still above. The force end has been discontinued for a few days, as we had to employ the men undercutting the stop mentioned above. There is no change in the north end, and the stop continues to yield as reported in last week's report. We shall complete the carting of the ore to-day.

**KILLIPRETH.**—John Mitchell, Joseph Tamblin, March 26: There is no alteration in our various bargains since we reported last. We are forcing on the 30 west as fast as possible to reach the cross-course, which we expect to do within another month.

**MELLANEAR.**—Capt. Harris and Toms, March 25: The ground in the 70 cross-cut driving north of main lode, east of Gundry's engine-shaft, continues to be strongly mineralised with muddle, and looking very congenial for miners. The part of the lode carrying in the 110 driving west of shaft is 4½ ft. wide, and yielding ½ ton of copper ore per fathom. The lode in the rise in the back of the 110, east of cross-course, east of Gundry's shaft, is 2½ ft. wide, and yielding stones of copper ore, and is worth for tin 8½ per fm. In the winze in the bottom of the 110, east of Gundry's shaft, the lode is 3 ft. wide, and yielding 1½ ton of copper ore per fathom, and good deal of arsenical muddle. The lode in the 120 driving east of shaft on the main part is 3½ ft. wide, and yielding 1 ton of copper ore per fathom, and looking more promising. In the 120 driving west of shaft on the main part the lode is 4 ft. wide, and yielding occasional stones of copper ore and tin, is getting better defined, and looking more promising to improve.

The part of the lode carrying in the 130, driving west of shaft, is 6 ft. wide, and yielding good stones of copper ore and saving work for tin throughout. There is more lode standing in the south side of the level, of the same congenial character, but still hard and spare for progress. The part of the lode carrying in the 130, driving east of shaft, is 4 ft. wide, and yielding occasional stones of copper ore and letting out an increased quantity of water. All our pumping and dressing machinery is working with its usual regularity.

**MID-DEVON COPPER.**—James Neill, March 21: A shaft has been sunk by 12 men with rock-drills and by hand labour 1 ft. 4 in.: total distance below the 90 fm. plat 4 fms. 3 ft. 11 in. There is no change in the strata; the capel, hornstone, and greenstone still predominate in its composition, the density of which impedes our progress. I still believe it to be a hard rock, and that we shall not be able to get through it as easily as we are able to get through it as we are sinking through it. The influx of water is being kept under by the machinery without difficulty, and it is working well throughout.

**MOUNTS BAY CONSOLS.**—W. Argall, T. Job, March 21: There is no change to notice in driving the 20 level, east of Pengerick shaft; the lode still produces good stones of tin. Behind the end we have commenced to put up a rise in the back of this level, but have not done enough as yet to report on it. We have 10 tribute pitches working at 13s. 4d. and 15s. in 14. Shall sell our monthly parcel of tin in the coming week.

**NEW CARADON.**—N. Richards, March 25: There is nothing particularly new in the mine to report on. The whole of the work, such as sinking the shaft, &c., is being carried on in the usual way.

**NEW KITTY.**—William Vivian, March 28: In the 40 fm. level driving east of Thomas's shaft the lode is improving, now producing rich stones of tin. The character of the lode is much the same as it was at West Kitty just before we cut into the great course of tin. The 20 fm. east of shaft is also presenting signs of improvement.

**NEW LANGFORD.**—T. Gregory, March 25: The lode in the 30, west of engine-shaft, is looking better and more promising, and the lead is beginning to show itself. In the rise in the back of the 10, at Malachi's shaft, we are breaking some low quality silver ore; it is rather uncertain what extent of white ground we have here. The machinery, &c., is all working well, and water very easy.

**NEW TERRAS.**—Richard Ede, March 28: The great lode in the 20, west of engine-shaft, continues to much improve as we drive west. It also keeps from 30 to 40 ft. wide. We are pushing on the works for the additional dressing-floors foundation for the engine and boiler houses, also the stamps. The weather just now is very dry, and the ground is very hard, and we are able to treat 100 tons of tin daily we shall have a mine second to none in Cornwall.

**NEW WEST CARADON.**—N. Richards, March 25: No. 5 lode, in the 38 west, is about 1 ft. wide, producing saving work for copper; a kindly-looking lode. In the cross-cut driving south at this level we have intersected another small ore branch. We shall not at present, however, stay to open out on it, but push on the cross-cut.

**NORTH GREEN HURTH.**—James Polglase, March 19: The south end continues about the same. The rise in the new-vein is up 3 fathoms; it is now in hand, and it seems to be a very favourable circumstance, as it is that we have not met with ore. The deep cross-cut is hard and without change.

**NORTH TRESKERRY.**—Pryor and Son, March 21: The following bargains have again been set:—No. 1 Tin Lode: The deep adit level to drive east of cross-cut by six men, for the month, at 4½ s. per fathom, where the lode is 2½ ft. wide, and continues to be worth 2½ per fathom. This level, to drive west of cross-cut, by six men, for the month, at 6½ s. per fathom; lode 5 ft. wide, and worth 2½ per fathom.—No. 3 Lode: To drive east of cross-cut by six men, for the month, at 4½ s. per fathom; lode 3½ ft. wide, and worth 1½ per fathom. To drive west of cross-cut by six men, for the month, at 4½ s. per fathom; lode 4½ ft. wide, and worth 1½ per fathom.—No. 4 Lode: To drive west of cross-cut by six men, for the month, at 3½ s. per fathom; lode 3 ft. wide, and worth 1½ per fathom. Six men to drive north to cut through what we believe to be the main part of No. 5 lode, at 4½ s. per fathom. Here we have met with a very large stream of water coming from the breast of the end, which induced us to continue the driving of this cross-cut a little further north, and we are sanguine of reporting favourably on this point at an early date.—Baron's Engine-shaft: The 58 cross-cut, to drive south of water, to the level of the 100 fm. level, where the men are making good progress, and the driving of which will be pushed on with all possible speed to reach the copper lode we are now going through in the 24. The 24 to drive 6 ft. further south, or to cut the south wall of the lode by six men, at 7½ s. per fm.; the lode at this point is now fully 12 ft. wide, and the end is still letting out water freely, and producing good copper ore. Several contracts are also being continued for clearing foundations for the stamping-engine and boiler-house, levelling burrows for dressing-floors, and the engineers are making good progress in taking out the engine, 50 heads of stamps, four boilers, &c., and we have just set the last building of the stamping-engine and boiler-house at 3s. 4d. per perch. Every other preparation is being carried out for the speedy erection of the steam-stamps, in accordance with instructions, and all the machinery continues to be in good working order, and the mine looking well.

**PENGARREG.**—Job Evans, March 25: I am happy to inform you that the new lode south is improving fast. Lead continues to improve every day. I consider this to be the best part of the mine; we have at least 50 fms. of backs, and now, after being clear of the north and south lodes, we get a good ventilation to go on for several fathoms. As the new lode there is a regular increase of water, and the strata is coming in fast from the south. We are expecting a change for the better soon. The new lode north is carrying lead regularly, and a good quantity of copper. I am daily expecting it to improve, as the water is increasing fast, and the ground is becoming more like dry ground.

**PHENIX AND WEST PHENIX UNITED.**—John Truscott, March 25: Second lode: We are driving at the 100 fm. level, east of this shaft, at 15½ per fathom, on a part of the lode, which is yielding saving work for copper, and is of an improving appearance.—Old Sump Shaft: At the 130 we are cross-cutting the lode at 5½ per fathom, it being worth 8½ per fathom for tin. The 30 level, or 100 fm. level, of this shaft is 12½ per fathom, the lode being 3½ ft. wide, and worth 1½ per fathom. No. 1 stop in the back of this level, at 4½ s. per fathom, is worth 2½ per fathom. No. 2 stop in the back of this level, at 4½ s. per fathom, is worth 1½ per fathom. No. 3 stop in the back of this level, at 4½ s. per fathom, is worth 1½ per fathom. No. 4 stop in the back of this level, at 4½ s. per fathom, is worth 1½ per fathom. No. 5 stop in the back of this level, at 4½ s. per fathom, is worth 1½ per fathom. No. 6 stop in the back of this level, at 4½ s. per fathom, is worth 1½ per fathom. 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**T. Hodge, March 26:** The 150 east end continues worth 45l. per fathom. The 130 west end has improved to 20l. per fathom. No other changes.

**WHEEL METAL AND FLOW.**—W. Argall, 8, P. Curtis, March 25: The shaftmen are cutting down the engine shaft, preparing to timber the same. Engineers and smiths are doing the necessary work to the engine, so that, as soon as the machine finish, we shall be able to put in the engine as soon as possible. Our two small pulverisers are turning out the tin very well. We have purchased several of the best and most approved pulverisers, to be worked by the steam engine.

**WHEEL PEEVOR.**—W. T. White, T. C. King, March 26: The 48 cross-cut to the Great Downs lode is being pushed forward with all speed. This and the driving of the 60 cross-cut south are considered to be the two important points and we hope soon to report the cutting of the lodes productive, for which they were started. We cannot speak of any particular alteration in the opening up of the new tin lode at the 39. The ground being of a softish nature good progress is being made in its development, especially in rising in the back to communicate to the 18. This is opening up a fair section of stopping ground, where we expect to have an increased quantity of stuff, which at present is the only drawback in increased returns. All our other bargains much the same as last reported.

## FOREIGN MINES.

**ALMADA AND TIRITO CONSOLIDATED.**—John Clark, February 26: Guayas: The mine is still in solid ground, and making good headway, and still giving green ore. We are still working with a small force of men, taking out from the Virgin, and looking after other points of the mine, &c. Since last report we have also discovered some green ore at the 100 ft. level.—Mina Grande: The old works, I think, will give considerable green ore. We shall be able to give you more news in next report on this point.—No. 1 Lode, Tirito: We have started contracts again in the No. 1 Tirito; lode in good shape. We hope to give you some good news in next report on this point.

**BELT COPPER.**—B. Brand, March 3: My last report was dated 17th ult. since when I have to report as follows:—Known: The last level east has been driven 17 ft. 11 in. during the past fortnight, making the distance driven for February 31 ft. 4 in., or total length 481 ft. 7 in. This level shows good stamp rock, but here, as well as in the second level east, we have met with large bunches of a hard green, flinty epidote, which is difficult drilling. One day during the past week the contractors could only drill about 2 ft. per hour. The second level east has been driven 17 ft. 7 in. during the past fortnight, making the distance driven for February 31 ft. 4 in., or total length, 225 ft. 8 in. The contractors were working three days on company account, stopping out the corner of the bend in the level. This level shows fair stamp rock, but no heavy copper. The second level west has been driven 15 ft. 6 in. during the past fortnight, making the distance driven for February 37 ft. 9 in., or total length 175 ft. 11 in. This level still shows fair stamp rock. I have decided to stop this level for the present, and have put the contractors in the 1st level, east of Wolsey. Shaft has been sunk 10 ft. 11 in. during the past fortnight, making the distance sunk for February 21 ft. 3 in., or total depth 308 ft. 1 in. The shaft is looking very well, and is producing some barrel work as well as good stamp rock.—Wolsey: Shaft has been sunk 10 ft. 11 in. during the past fortnight, making the distance sunk for February 21 ft. 3 in., or total depth 116 ft. 5 in. The same parties are now driving west from Wolsey, or towards the Known, the distance driven for February being 11 ft. 5 in. Both the east and west lat levels, Wolsey, are let at 87 per foot. I am now trying to get parties to take the shaft at \$10, but may have to pay more.—Great Western: We are now so completely blocked up with trade that we cannot drill more here until the engine is able to clear the shaft.—Surface: The new Known engine is giving perfect satisfaction. The old one is now being thoroughly overhauled, and the shaft foundations at the Great Western are being put in to-day, and as soon as possible the engine will be put in place. Nothing further to report.

**VALA MOYAR GOLD.**—Mine Manager, March 2: Fair progress has been made during the past week.—Salomon's Reef: The main tunnel has been driven 3 ft.; the 100 ft. level, 9 ft.; raise up from same, 11 ft.; the 200 ft. level, 7 ft.; the 300 ft. level, 4 ft.; the 500 ft. level, 19 ft. The quartz in the 400 ft. level being too good to throw away we have had to stop work in it pending the completion of a shoot to convey the quartz down to the road; this shoot will be finished to-day. In order to put the mill in operation, the mill is taken from four or five different levels, but after this crushing, I hope to have shoots and platforms so arranged that the quartz from each level can be tested separately. There is a change for the better in all the drives as they penetrate into the hill, and I expect every week to strike better quartz.—Hawes Reef: The drive has been extended 5 ft., and on Friday and Saturday I found some good coarse gold in the quartz, which was being broken from the face. This I consider encouraging, and it is the first gold of any account, which I have seen in the lower level of this reef.

**BERHARDT (NEVADA).**—Frank Drake, February 28: Cross-cut 1 from drift 1 advanced 10 ft.; total, 20 ft. No change worthy of note. Cross-cut 2 from drift 1 advanced 10 ft.; total, 20 ft. In ledge matter of a promising character with a good amount of quartz.

**ENGLISH-AUSTRALIAN GOLD.**—Capt. Pollard, Feb. 11: During the past month we have crushed 41 tons for the tributors working at the 70 ft. level; result 5 ozs. 11 dwts. retorted gold, making 4 dwts. 6 grs. per ton. This crushing gives the tributors wages. They have about 4 ft. of stone in the face just now, but cannot see any gold in breaking. We have also crushed 44 tons for the public this month at 5s. per ton, and shall be crushing for the public again this week—about 25 tons. We have set two other tributors, one at the 90 ft. level, eastern shaft, and shall crush from them next week. The other tributor is from another shaft further east, and about 50 ft. from the surface. There has been nothing done on this quartz for the past 13 years. If all the tributors should get wages, and with the public crushing, I think we shall be able to pay the expenses of the mine, and pay off some of the overdraft. The water is just the same, easily kept underwhilst crushing.

**HORSACOR.**—Manager's Report, March 14: At Hornada Mine: 3rd Level South: The stopping from the winze yields 24 dwts. of silver per ton, and the back yields 16 dwts. of silver per ton. The 4th Level North: The stop in the back yields 20 dwts. of silver per ton. A new stop has been started in the back of this level, but is without value as yet. In the south level the two stops yield 16 dwts. of silver per fathom each, the lode in both places fluctuating in value.—5th Level North: Stop No. 1 yields about 8 dwts. of silver per fathom, the mineral being argentiferous lead, blende, and copper. Stop No. 2 produces about 16 dwts. of coarse mineral per fathom, the character of the being similar to that of Stop No. 1. Stop No. 3 in the south level stop No. 1 yields 24 dwts. of mixed ore per fath., ground hard. No. 2 stop has just been started, the lode contains ore in small quantities. The driving of the 6th level south looks more favourable than when last reported on, and yields 4 dwts. of silver per fathom. The 7th level, driving south, is favourable for progress; the lode is estimated at 10 dwts. of silver per fathom, of very good quality, and large quantities of water issuing. The stop in this level is without change, and is also very wet. In the 8th level north there is a gradual improvement in the lode in this end, which is now yielding 16 dwts. of silver per fathom. In the south end no ore of any value has yet been found, but a favourable change is expected when it reaches the point where the dip of the ore from the 7th level should be met with. The estimate of unwashed ore broken, and for the most part at surface, is 124 tons.

**INDIAN CONSOLIDATED GOLD.**—February 13: Grove's Section, No. 1: The drive north has been extended 11 ft., making a total of 149 ft. On the new face of stone the lode is about 6 ft. wide: it is a very poor, hungry-looking reef for the last 8 ft., and does not contain mineral of any description. I have tried several prospects, but can only get the trace of gold. We have decided to rise on the stone over the back of No. 1 level north, so as to prove the height of the lode, and see if it improves towards the cap of reef. The trial crushing we had from this part of the mine was the best we have had, so we think it advisable to still prospect it.—Grove's Section, No. 2: The north drive has been extended 11 ft., making a total of 297 ft. from cross-cut. The lode is about 5 ft. wide, and the stone is changed to a rubby quartz, and contains about 2½ per cent. of pyrites, and, according to samples tried, will yield about 2 dwts. of gold to the ton. As far as appearance goes, I like the look of the stone better than any I have yet had in this level.—Battery: I finished crushing from Grove's No. 2 on 4th February. The quantity of stone put through the mill was 785 tons for a yield of 35 ozs. 7 dwts. of retorted gold. The yield is very poor. It is a proof that the stone in No. 2 level as yet opened up is of no value. I have hung up battery, and will have it ready to work at any time to crush in the monsoon or if we meet anything worth trying before. Everything will be in readiness.

—February 27: Grove's Section No. 1: The drive north has been extended 8 ft., making a total of 158 ft.; the lode is about 4 ft. wide, and is a white, hungry-looking reef. It does not contain any mineral.—Rise: The rise over the back of No. 1 level has been extended 8 ft.; the lode is about 4 ft. wide, and contains about 2 per cent. of pyrites, and about 2½ dwts. of gold per ton. Grove's Section, No. 2: The north drive has been extended 14 ft., making a total of 311 ft. from cross-cut; the lode is about 4 ft. wide on the hanging wall side. The stone is of a honeycomb nature for about 18 in. in width, there a land of decomposed country about 1 in. wide. The stone on the footwall side of this band is of a rubby nature, and contains about 3 per cent. of pyrites, and will yield about 3 dwts. of gold per ton.

**Note:** The conditional arrangements for the purchase of the Colar Gold Mining Company's property, and the gold fields (referred to in the directors' special circular to the shareholders, dated the 24th January, 1885) having now been carried out, Mr. Lyon has had instructions by wire to take over the property, and commence work forthwith.

**JAVALI.**—G. E. Chambers, February 5: The following is the report of the past month's working:—Mina: Pim's tunnel was driven 7 varas; the quartz shows good sufficient to bring to the stamps. Pablo's shaft was sunk 3½ varas; the communication between this and Pim's tunnel was not effected as I had anticipated, but I expect in a very few days to have it completed. Dolores' stop was driven 6½ varas to meet. For economy's sake I have stopped this level until the wet season. The level to east from Seemann's shaft was driven 11½ varas. I have also stopped this for the same reason. The level to east from Teodilo's shaft progressed 6½ varas. Esperanza level was driven 2½ varas. The quartz supply comes from the following stops:—Seemann's stop yielded 181 tons; Seemann's level to east, 40 tons; San Pedro No. 1, 58 tons; San Pedro No. 2, 144 tons; Laken, 91 tons; east sinking, 201 tons; west sinking, 192 tons; Dolores, 141 tons; San Pedro No. 1, 349 tons; Nispero No. 3, 185 tons; Pim's tunnel, yielded 139 tons; San Pedro, 37 tons. The main workings were—Seemann's shaft, drove works the timbermen were employed as usual in repairing traps, timbering, and retimbering levels, &c. The mine is in its customary good order.—La Fé: From January 24 the water has fallen off, allowing us only to work with 25 stamps. The mill worked 23 days, crushing 1460 tons of quartz, which yielded 20½ ozs. of gold, showing an average per ton of 4 dwts. 2½ grs. I hope with the assistance of a few showers to keep the 25 stamps at work with 500 tons of quartz, which yielded 110½ ozs. of gold, showing an average of 4 dwts. 0½ grs. per ton. We have still sufficient water.—La Caridad: The two stamps worked 28½ days, and yielded 37 ozs. of gold. The total remittance per ton of 5 dwts. 1½ gr. I had anticipated a better result, but in retorting the quality—Receipts and Expenditure: The expenditure was 1148l. The remittance is valued at 2705l.—Buddies: The flooring of the first buddie is nearly completed, and if we do not run short of timber I hope to have the whole buddie nearly finished by the end of the month.

**LA PLATA.**—Manager, March 6: The value of the ore produced during February was \$15,124, and the working expenses will not greatly exceed \$7000, leaving a profit of about \$9,000 or 1800l. to the mine. A small proportion of the ore produced has been sent to the assay, in silver, giving from 145 to 190 ozs. per ton, and it is hoped that in the following branches of this ore discovered in No. 8 winze, it will be found in large quantities. A drift is being extended towards a body of good grade ore, which was worked close up to our boundary in the Pinnacle Mine, and yielded 100 ozs. silver per ton. This work will take another month to accomplish. The following cablegram, dated March 25, gives the returns for the first fortnight of this month:—Ore received from the company's mine 300 tons; total ore received, 1500 tons; ore smelted, 1400 tons; bullion produced, 125; silver produced, 35,000 ozs. Two furnaces (running). Roads bad. No 8 winze, better.

**MYSORE GOLD.**—B. D. Plummer, March 3: Mining Operations: Yesterday we set the following bargains: Taylor's engine-shaft to sink below the 233, to 18 cooles and two maistries; the lode is 5 ft. wide—value by assay made on Friday last 4 ozs. 13 dwts. 1 gr. per ton. The north end, in the 233, is driven by rock-drills; the lode has gone small, reaching about 2 ft. from the bottom of the end; assay value 3 ozs. 1 dwts. 6 grs. We have driven to within 5 or 6 ft. of No. 1 winze sunk in the bottom of the 173. We have had no lode of value in the 173, and it is almost certain that we have now got into barren ground in the driving. We hope to hole to the winze in eight or ten days; this will give us some relief in ventilation, and it will facilitate the winding of ore from the 233. The south end in bottom of the mine is set to nine men and one maistry; the lode is 4½ ft. wide, and the assay value is given as 4 ozs. 13 dwts. 22 grs. The winze in the bottom of the 173, south of Taylor's shaft on west lode, is set to nine men; the lode is 2 ft. wide for a length of 3 or 4 ft. the rest is in old workings. Assay value 1 oz. 4 dwts. 12 grs. The south end in the 173 on the west lode is principally in old workings. We pick out, however, a few tons of quartz from the east side. The assay value is given at 2 ozs. 8 dwts. 7 grs.; set to six men. No 2 winze in the bottom of the 173, north of shaft on west lode, is set to 18 men. Nos. 1 and 2 rises in the back of the 173 on the east lode are set to six men in each place; the lode averages 3 ft., and the assay value is given at 17 dwts. 6 grs. per ton of ore. The north end on the east lode in the 173 is set to six men.

**MYSORE GOLD.**—Captain Plummer, March 21: Telegram: 65 tons rich quartz from bottom of mine yielded 200 ozs.; 53 tons quartz from 173 ft. level 56 ozs.; 18 tons of blanket sand from previous crushings, 10 ozs.; total, 136 tons produced 266 ozs. of gold.

**NEW CHILE GOLD.**—Richard Pearce, February 14: Shaft No. 4 Cencero: The depth of the shaft from the No. 9 levels is 43 ft. 6 in.; lode in the bottom 2 ft. 6 in. wide, and quartz of good quality, showing gold. We have started a drift on each side of the shaft 30 ft. b-low the No. 9 levels east and west. The drift westward is in 4 ft. the drift eastward 3 ft. 6 in. These drifts when communicated with the bottom of the winzes sunk in the bottom of No. 9 level east and west will leave a pillar 30 ft. square on each side of the shaft. The 9 level west is in 202 ft. 6 in. from shaft; the end now shows the lode 2 ft. 6 in. wide, and considerably improved in quality since last report. This level is 30 ft. in advance of the 3 stone west, the lode in which is 2 ft. 3 in. wide, and good milling quartz. The 5 level west is in 262 ft. from shaft; lode in the end 2 ft. wide, and quartz of fair quality. This level is 85 ft. in advance of the 3 stone west, the lode in which is 1 ft. 6 in. wide, and also fair milling rock. The 9 level east is in 194 ft. from shaft; lode in the end 2 ft. wide, but quartz not of much value. This level is 43 ft. ahead of 9 stone east, in which the lode is 3 ft. 6 in. wide, and also of low grade. Winze in the bottom of this level, 30 ft. from shaft, has not been sunk further since last report; but we have stopped out 9 ft. depth, and 50 ft. length of lode shut along the bottom of the level, from the eastern end of this stop. This stop is in the middle of the lode 3 ft. wide, of a very favourable character, and carrying between it and the hanging wall a layer of flookan 6 ft. wide, of a dark sulphurous nature. This shoot of rock is pitching west, and has begun to show itself in the bottom of the shaft since February 13. For 40 ft. below the No. 9 level the lode is somewhat broken up; but the bottom—43 ft. below the level shows the lode 2 ft. 6 in. wide, well defined, and quartz of very good quality. No. 8 level east is in 353 ft. from the shaft; the lode in the end, 1 ft. 6 in. wide, and of inferior quality. In the stop in the back of this level nothing has been seen since last report.

**NEW CHILE GOLD.**—Richard Pearce, March 5: The work of cutting plat for clster in the Briol's shaft below the 230 is nearly completed. In the north drift at 230 an advance of 10 ft. has been made during the month; the ground is tight, and the vein small. In order to have a full supply of ore still we are ready to begin driving from the Gallimore shaft, a stop has been started in the bottom of the 210 north. The vein here near the shaft is about 12 ft. wide, of which about half is ore worth \$10 per ton. The skip-road in the Briol's shaft is finished down to the 230.—Hawkins: In the No. 1 stop the ore body was cut off by a cross-course of greenstone in the early part of the month. On cutting through this greenstone, the ore was found to come in again and we are now drifting through what seems to be a large body of ore, worth from 30 to \$10 per ton. In the No. 2 stop the ore is looking very well; the ore broken here during the month has been worth about \$30 per ton.—Mill: 26 tons, 23½ dwts. crushed 497 tons, yielding 430½ ozs. of gold. At the date of writing this report the work of putting up the hoisting engine is completed, except a few pipe connections; in another day they will be ready to run. N.B. The secretary informs us that the bar (result of the above crushing) has been received at the company's offices.

**NEW EMMA SILVER.**—G. Collins, March 3: On the 16th ult. I wrote advising you of the disastrous snow slide which happened on the night of 13th February, but at the time was unable to write you the extent of damage to our works further than to state that the snow had been carried away. Since writing you I have been over the ground, and have so far been unable to find but a few of the stacks, and they badly broken. The slide ran over the new buildings, which stood the test fully as well as expected. Had the new buildings been erected on site of old buildings the destruction would have been complete, as it is the damage is but slight, only one end of boiler-house broken slightly. However, because of loss of smoke stacks will not be able to start work again until road is opened (it is now impossible to get anything up the canyon heavier than a man can carry), which will be at least two months, but in the meantime should we find the missing smoke stacks and they can be repaired here will put them in place and start work with two boilers. The town of Alta is now deserted, the damage being fully as great as first reported. Mine is now full of water.

**NORTH MEXICAN SILVER.**—E. Jennings, February 27: I am pleased to inform you we have a splendid lode in the Madrono tunnel. It is a strong and well defined lode, 5 ft. wide, with 3 ft. of good silver ore and 2 ft. soft clay. It was extended in the past fortnight 38 ft. 8 in. It is now driving at 85 per foot. We have a fine mining property here, and it is sure to do well. I should be glad if you were here now to see the rocks of good ore that we are taking out of the Madrono tunnel. Mr. Jennings is here some time yesterday, to see the timber for the winze and for the San Saturnino shaft, and will be here in a few days. We have cleared off the dust at the foot of mountain. On the San Nicholas lode we have two men and one boy blasting out some good stones of ore.

**RUBY AND DUNDERBERG CONSOLIDATED.**—March 1: In the Dunderberg there is no change to report; 13 tributors at work and 8 tons ore shipped.—Lord Byron: The tributors at the west shaft are still sinking the winze below the tunnel level, which is now down 35 ft. (below the tunnel level). The orebodies in Nos. 1 and 2 caves are producing about the usual quantity of ore. The only important visible change during the week is at the north end and No. 1 cave at a point further north than any ore has been found before. Work was commenced on the new shaft below the tunnel level to-day. There are 28 tributors at work, and 34 tons of ore were shipped during the week, and between 40 and 50 tons ready for shipment.

—Telegram, March 24: 52 tons ore shipped, and 14 tons smelted, producing to company \$112.

**RUBY AND DUNDERBERG.**—The usual report advises fair work at the Lord Byron Mine. The shaft from the Tunnel level had been commenced, which will be finished in a few days, as when this is completed the lode at the bottom of the course will be hoisted much more economically and much quicker. It is understood that the allotment of shares in the new company was made yesterday, the whole quantity having been applied for.

**ST. JOHN DEL REY.**—Telegram from Morro Velho, dated Rio de Janeiro, March 23: Produce 11 days, first division of March, 7000 lbs.; value, 2712l.; yield, 4½ dwts. per ton; profit for the month of February, 6000l.—Culaba: Expenditure in excess of produce, 4000l.

**UNITED MEXICAN.**—Mr. Hay Guanaxtato, March 2: El Diamante: We have driven on February 21 the cross-cut of St. Paul metres; total, 510 metres. We have discovered nothing in this working. In the 1st drift of St. John we have driven on February 21 310 metres; total 75 metres. The lode continues in its barren state. On February 21 we have driven in the cross-cut to the base of St. John 3 metres; total 1080 metres.—San Cayetano de la Ovejuna: On February 21 we have driven in the 11th drift of St. Andrew east 260 metres; total metres 8215. The width of the lode has decreased to 150 metres, but no ore has appeared in it yet. In the 13th drift of St. Andrew west we have driven on February 21 2 metres; total 7280 metres. We have driven on February 21 in the 15th drift of St. Andrew west 170 metres; total 250 metres; total, 2985 metres. The lode is 1 metre broad and the ore shows a slight improvement. In the 16th drift of St. Andrew east we have driven on February 21 5 metres; total, 1435 metres. The advance during the week is great as we have driven at the same time from winze No. 1 to meet this end; having communicated the two winzes No. 11 and No. 1 we are now driving to the east of the latter. The lode is 90 centimetres wide all in fair ore. In the 1st winze of St. Andrew we have sunk on February 21 2 metres; total 11891. The lode is in the same state as during the previous week, 1 metre wide in the cross-cut of St. John south on February 21 in the 2nd winze of St. Andrew 3 metres; total 11142 metres. This winze has not been worked since September 13, 1884. The lode is 60 centimetres wide in fair ore on the north-west side of the vein. On February 21 we have sunk in the 5th winze of St. Andrew 240 metres; total 7010 metres. The lode is 1 metre broad all in ramified ore, the quality of which is improving. From the bottom of this winze we have opened two ends, called No. 17 of St. Andrew west and east, the lode measuring 1 metre in width. We have sunk on February 21 in the 11th winze of St. Andrew 340 metres; total 2355. The lode is 120 metres broad in good ore.—Santa Monica: We have driven in the cross-cut of St. John south on February 21 310 metres; total 4560 metres. This working was abandoned on July 12 last year.—San Antonio de la Ovejuna: On February 21 we have driven in the drift of Ano Nuevo 210 metres; total 655 metres. A seam of quartz with slight appearances of ore has been traversed.—Adit: We have driven on February 21 in the drift of St. Martin 470 metres; total 20320 metres. The lode is very narrow and quite barren. Returns from the mine of San Cayetano de la Ovejuna for the week ending February 28 is \$15,021.41, outlay \$3421.23.

—Mr. Hay, March 9: El Diamante: On February 28 in the cross-cut of Saint

Pablo we have driven, 2 metres; total metres, 6310. This working is in the same state it has been in hitherto. In the 1st drift of Saint John west on the 28th ult., 390 metres; total, 7925. Nothing is seen in this end but a wall tells which runs along our advance. We have driven on the 28th ult. in the cross-cut to the base of Saint John 220 metres; total, 13 metres. During last week we have traversed a thread of quartz.—San Cayetano de la Ovejuna: We have driven on February 28 in the 11th drift of Saint Andrew east, 380 metres; total, 8590 metres. We have not yet found any ore in this working. In the 13th drift of Saint Andrew west we have driven on the 28th ult., 150 metres; total, 7430. The lode is still barren. We have driven on the 28th ult. in the 15th drift of Saint Andrew east, 150 metres; total, 3135 metres. The ore is found in pockets or bunch holes and, therefore, the quantity is small. On the 28th ult. we have driven in the 16th drift of Saint Andrew east, 360 metres; total, 1795. The ore is ramified over the width of the vein, which measures 1 metre. We have sunk in the 1st winze of Saint Andrew on the 28th ult., 180 metres; total, 12071. The lode is 1 metre wide, and the ore, of a good class, is ramified over the whole breadth. In the 2nd winze of Saint Andrew we have sunk on February 28, 2 metres; total, 11342. The quality of the ore has improved, and the width of the lode has increased to 75 centimetres. On February 28 we have sunk, in the 5th winze of Saint Andrew, 260 metres; total, 7270 metres. The vein is now only 55 centimetres broad, containing but little ore in a ramified state. We have sunk on February 28, in the 11th winze of Saint Andrew, 210 metres; total, 2565 metres. The only change we have noticed is, that the lode has decreased to 1 metre in breadth, but it is all in good ore, ramified.—Santa Monica: We have driven on February 28, in the cross-cut of Saint John, 240 metres; total, 48 metres.—San Antonio de la Ovejuna: We have driven on February 28, in the cross-cut of Ano Nuevo, 260 metres; total, 865 metres.—Adit: In the drift of San Martin we have driven, on 28th ult., 460 metres; total, 20760 metres.—Remittance of 2090l. arrived. Returns from the mine of San Cayetano de la Ovejuna for the week ending 7th March, 1885, are—\$14,280.14; outlay, \$3541.73.

The directors of the United Mexican Mining Company have just received the following telegram:—The excess of returns over outlay on the mine of San Cayetano de la Ovejuna for the week ending 21st March, 1885, is \$11,900. Holiday.

## COMMERCIAL FAILURES.

The number of failures in England and Wales gazetted during the week ending Saturday, March 21, was 95. The number in the corresponding week of last year was 80, showing an increase of 15, being a net decrease in 1885, to date, of 107.

The failures were distributed amongst the following trades, and, for comparison, we give the number in each in the corresponding weeks in 1883 and 1884:—

	1885.	1884.	1883.
Building trades.....	8	6	29
Chemists and druggists.....	—	—	4
Coal and mining trades.....	—	1	11
Corn, cattle, and seed trades.....	4	1	7
Drapery, silk, and woollen trades.....	8	1	23
Earthenware trades.....	1	1	2
Farmers.....	4	8	6
Furniture and upholstery trades.....	—	2	3
Grocery and provision trades.....	17	14	45
Hardware and metal trades.....	4	—	11
Iron and steel trades.....	8	2	9
Jewellery and fancy trades.....	4	4	14
Leather and coach trades.....	13	5	4
Merchants, brokers, and agents.....	7	9	27
Printing and stationery trades.....	—	2	5
Wine, spirit, and beer trades.....	4	8	14
Miscellaneous.....	13	16	35
Totals for England and Wales.....	95	80	248
Scotland.....	27	22	20
Ireland.....	8	5	9

Totals for United Kingdom ... 130 ..... 107 ..... 277

The number of Bills of Sale published in England and Wales for the week ending March 21 was 251. The number in the corresponding week of last year was 257, showing a decrease of 6, being a net decrease in 1885, to date, of 33. The number published in Ireland for the same week was 31. The number in the corresponding week of last year was 12, showing an increase of 19, being a net decrease in 1885, to date, of 25.—Kemp's Mercantile Gazette.

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50 Colliamombe Con., 2s 6	40 West Phoenix, 2s 6d	20 La Trinidad, £5 2s 6
10 Devon Con., £1 12s 6	10 Wheel Basset, £5 5s	10 Mason-Barry, £7 12 6
100 D. Friendship, 1s 3d	50 Wheel Crebore, 17s 6	20 Montana, 24s
50 Drakeville, 4s 6d		50 Mysore Gold, 24s
50 East Blue Hills, 6s 6d	20 Asia Minor, 3s 6d	200 Nacupai, 2s 3d
25 Ecton, 23s	60 Akankoo (f.p.), 5s 9d	15 New Emma, 6s 6d
100 East Wh. Rose, 5s 6d	20 Balkis, 2s 6d	100 New Callao, 4s 6d
50 Frongoch, 8s	50 Bratsberg, 13s	100 Nouveau Monde, 2s
100 Goginan, 1s 6d	50 Cartago, 15s paid, 4s 9	100 Nundyrong, 7s 6d
10 Great Laxey, £3 2s 6d	200 Cartago, fully paid,	50 Nine Reefs, fully paid,
25 Gunnislake (Chil.), 7s 3	3s 6d	50 Oscar Gold, 17s 6d pd.,
25 Great Holway	100 Canlim Banno, 1s 2	7s
75 Home Mines Ltd., 13s 3	10 Copiapo, £1 17s	100 Oscar Gold, Vendors,
20 Killifreth, 11s	50 Canada Copper, 3s 3d	fully pd. 8s 3d.
50 Kit Hill Gt. Cons., 9d	100 California Gold, 4s 6	50 Organo, 8s 6d
20 Kitty St. Agnes, 15s 6	100 Callao Bis, 10s	50 Orita, 20s 6d
50 Leadhills, 22s	100 Chile (Nev.), 16s pd.,	25 Potosi, New, 11s 9d
30 Mounts Bay, 2s 3d	5s 3d	50 Port Phillip, 2s 3d
50 New Kitt, 19s	100 Chontales, 2s 9d	25 Potosi, £2 1/2
50 New Wt. Caradon	80 Colombian Hyd., 9s	50 Ruby, 6s
50 Old Shepherds, 2s 6	150 C. St. Aust. Copper,	15 Richmond, 23 1/2s
20 Phoenix United, 23s 6	2s	20 Rio Tinto, £10 1s 3d
20 Polberro, 45s	100 Denver Gold, 2s	20 Schwab's Gully, £4 10 6
50 Prince of Wales, 2s 9	100 Eberhardt, 2s 6d	100 Spitzkop, 9s
80 Parys Copper, 1s	2 El Callao, 45s 6s	100 Tacuahu, 1s 9d
15 Roman Graves, 63s 9	50 Frontino, 8s	30 Tocopilla, 2s 6d
50 South Caradon, 6s 6d	50 Glenrock, 2s 3d	11 Tollima A., £3 10s
10 S. Condurrow, £2 1/2	55 Gold Coast, 2s 3d	200 Transvaal Gold, 4s
30 South Darren, 5s	100 Hoover Hill, 5s	50 Tambracherry, 4s 6d
10 So. Frances, £2 1/2	250 Indian Consol., 2s 9d	20 U. Mexican, £3 4s 6d
50 Treavean, 4s	20 Javali, 2s 6d	100 Victoria Gold, 9s 3d
20 Trevaunance, 41s	100 Kohinoor B. 5s 6d	500 West Callao, 2s 6d
50 Van, 12s 6d	100 Kapanga, 5s	
50 West Crebore, 1s	100 La Plata, 5s	

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75 Akankoo, 5s	40 Home Mns Trst, 13s 6	20 Oscar Gold, 17s 6d
40 Bratsberg, 11s	25 Holywell District Ld.	paid 7s 6d.
100 Balkis, 2s 9d	50 Hoover Hill, 4s 9d	50 Oregum, 2s 6d
50 Colombian Hyd., 9s 9	50 Indian Consol., 2s 9d	25 Potosi, £2 1/2
50 Callao Bis, 10s	100 Kapanga, 5s	50 Ruby, 6s
10 Chile Gold, 2s 6d	50 Kohinoor B. 5s 3d	15 Rio Tinto, £10 1s 3d
120 Chontales, 2s 9d	50 La Plata, 5s	15 Richmond, 23 1/2s
20 Colorado, £2 1s 3d	60 Lisbon-Beryn, 4s 9d	5 Schwab's Gully, £4 12 6
50 Denver Gold, 2s	25 Montana, £1 12s 6d	10 Tollima A., 4s 6d
25 East Rose, 5s	50 Mysore Gold, £1 5s	25 Tollima B.
25 Ecton, £1 3s 3d	50 Nouveau Monde, 2s 6	75 Transvaal, 4s 6d
75 Eberhardt, 2s 6d	50 Nundyrong, 7s 6d	10 U. Mexican, £3 5s
25 East Blue Hills, 7s 6d	50 Nine Reefs, 3s 9d	75 Victoria, 7s 9d
50 Frontino	40 New Callao, 4s	60 West Callao, 2s 6d
80 Glenrock, 2s 6d	250 Organo Gold, 7s 6d	15 West Crebore, 1s 6d
	25 Old Shepherds	

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70 Bratsberg, 10s 6d	70 Lisbon Beryn, 4s	50 Potosi, 11s 6d
100 California, 4s 6d	100 Oscar, 17s 6d pd, 6s 6	25 Rio Tinto, £10 1s 3d
50 Chile, 8s	100 Montana, 32s 6d	15 Roman Graves, £3 1/2
75 Colombian Hyd., 9s 9	110 Mounts Bay, 2s 3d	10 Tollima A., £3 7s 6d
100 Colorado, £2 1/2	30 Mysore Gold, 21s 3d	100 North Tollima, 18s 6d
70 East Rose, 4s 9d	50 Old Shepherds, 6s 6d	50 Victoria, 8s 6d
25 Leadhills, 23s 9d	100 Organo, 7s	20 Schwab's Gully, £4 10

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## THE MINING JOURNAL,

Railway and Commercial Gazette,

LONDON, MARCH 28, 1885.

## CHECK-WEIGHERS IN COAL MINES.

One of the most important cases (HOPKINSON v. CAUNT and others) that have occurred under The Coal Mines Regulation and Inspection Act, 1872 (35 & 36 Vict. c. 76), has just been decided in the Queen's Bench Division of the High Court of Justice. It is of importance both to the owners of all such mines throughout the country, and to the miners employed in them. The 17th section of the Act declares that the persons who are employed in a mine to which the Act applies, and are paid according to the weight of the mineral gotten by them, may, at their own cost, station a check-weigher at the place appointed for the weighing of such mineral, in order to take an account of the weight thereof on behalf of the persons by whom he is so stationed; that the check-weigher shall be one of the persons employed either in the mine at which he is so stationed or in another mine belonging to the owner of that mine; that he shall have every facility afforded him to take a correct account of the weighing for the persons by whom he is so stationed; and that, if in any mine proper facilities are not afforded to him, as required by the section, the owner, agent, and manager of the mine shall each be guilty of an offence against the Act, unless he shall prove that he has taken all reasonable means, by enforcing them to the best of his power, to prevent any contravention of, or non-compliance with, the provisions of the section. The plaintiff, who was at the time employed there by the owner, was, in February, 1883, stationed at a mine by the miners as their check-weigher at 35s. a week wages. On the 30th of July he received 14 days' notice from the miners to terminate his employment, so that the notice would expire on the 13th of August. On the 11th of August, however, and, therefore, whilst the notice was still pending, the miners held a meeting and agreed to continue him in his employment, and on the 11th, 12th, and 13th of August he continued to attend at the mine; but when he attended on the morning of the 14th he was obstructed in his attempt to perform his duties. In consequence of being thus obstructed, the plaintiff brought an action in the County Court at Nottingham. At the trial in the County Court the plaintiff stated in his evidence that he had been re-elected at lower wages, and that he attended daily at the mine down to and including the 13th of August, but that when he went to the mine on the morning of the 14th he was not allowed by the under-viewer to act any more, and that three men—CAUNT and the two other defendants in the action—acting, as they said at the time, under the authority of the owners of the mine, came and pushed or pulled him away. It was admitted by the plaintiff that in doing this no more violence was used than was necessary to keep him away, and that he had refused to accept the reduction of his wages. On the part of the defendants the objection was raised that the plaintiff at the time of his re-election on the 11th of August was not "a person employed at the mine," that is, employed by the owners, and so was not eligible to be re-elected. The Judge of the County Court gave judgment for the plaintiff, holding that he was at the time of his re-election employed at the mine, although he was not at the time in the employment of the owners of the mine, and that the requirements of the statute were thus complied with. Against this judgment the defendants appealed. On the hearing of the appeal it was contended on the plaintiffs' behalf that there was nothing in the Act making it necessary that the check-weigher should be in the employment of the owners of the mine at the time of his election; but that, assuming it to be necessary, the plaintiff was, when first elected, in the employment of the owners, and that he did not cease to be so when elected by the miners. It was further contended on his behalf that his notice not having expired at the time of his so-called re-election, there never was any determination of his employment as check-weigher; or, in other words, that the so-called re-election was in reality only a withdrawal or cancelling of the notice given on the 30th of July, and did not amount to a new

hiring. The contention on the part of the defendants (or rather of the owners of the mine, who were, of course, the real defendants in the action) was in a directly opposite direction, it being argued on their behalf that the condition in the Act that the check-weighers should be in the employment of the mine, meant that he should be in the employment of the owners of the mine at the time of his election by the miners, and that this condition applied also to a re-election, the object of the Legislature being, it was urged, not to allow the miners to appoint anyone check-weigher who was not in the employment of the owners, in order that the appointment may be secured of a person familiar with the raising of coal, and practically acquainted with it. This was the view ultimately taken by the learned judges (Mr. Justice MATTHEW and Mr. Justice A. L. SMITH), before whom the appeal was argued, and the decision of the County Court Judge was accordingly reversed, and judgment given for the defendants. Henceforth, therefore, it must be taken to be the law that a person to be eligible as check-weigher in a coal mine must be in the employment of the owners of the mine at the time of his election by the miners, whether his appointment be an original one, or be made in succession to an appointment already brought to a close. This view of the law will probably render it, in most cases, impossible to re-elect a check-weigher whose employment as such may have come in any way to an end, because a man when elected to the office by the miners would cease to be in the owners' employment, and unless he returned to it on the termination of his employment by the miners he would not be eligible for re-election, as he would not satisfy the condition required by the statute. It may, however, be well to point out that the condition of the statute respecting employment by the owners would not, we apprehend, under ordinary circumstances, apply to a case where a notice to terminate his employment may have been given to a check-weigher by the miners, who afterwards resolve to abandon the notice and to continue him in his employment. It is always open to the party to a hiring, who has given a notice to the other party to terminate it, to withdraw the notice and to continue the hiring, if the other party consents to this being done; but in order that the contract between them may continue to exist the original terms must not be interfered with, for if those terms are altered in any respect the contract will be done away with, and a new contract will be established. It was just such an alteration as we allude to in the original terms that made the condition of the statute applicable to the re-election of the plaintiff in the present case, and gave rise to his being decided to be ineligible for the office. Had the notice given on the 30th of July been simply withdrawn, and had the plaintiff been allowed by the miners to pursue his work upon the terms then existing, no objection, such as afterwards prevailed, on the part of the owners of the mine to his being employed, could have been sustained, as his employment would have been continuous under the original contract of hiring, in respect of which the condition imposed by the statute had been satisfied; but such was not the case, for, although the plaintiff was re-elected, he was not re-elected upon the same terms, but upon different terms, his wages having been reduced. So that, even if he had accepted the reduction of wages, a new contract would have been established, and the condition would have applied afresh, and he must have failed to fulfil it, not being at the time in the owner's employment. As a matter of fact, however, he did not accept the reduction, but, as he admitted, refused it; so that, whilst the original contract had come to an end, no new contract was, for lack of the necessary mutuality between the parties, established in its place; and, consequently, the plaintiff could not have been held, it would seem (although the point was not apparently raised on the argument of the appeal), to have been in the employment even of the miners on the day on which he was obstructed. That the owners of the mine were (strictly speaking, at least) acting within their rights in objecting to the plaintiff there can be no doubt, although the nature of the objection would appear to have been, somewhat technical. That the object of the Legislature in requiring that the person appointed as check-weigher should be in the employment of the owners of the mine, was to secure the appointment of a person practically acquainted both with the raising of coal, and with the method of working at the particular mine, may be admitted; but it could hardly be contended that the plaintiff's case fell fully within the "mischief" contemplated by the statute, inasmuch as he was originally elected from the body of the men employed in the mine, and so may be presumed to have had the requisite knowledge. On the other hand, it may be urged that to allow the re-election of a man who did not, although it may be only technically, satisfy the condition of the statute in one case, may be to open the way to evading or disregarding the statute in other cases, and that the thin end of the wedge being proverbially dangerous, it is well to set a firm face against the creation of a bad precedent. That no misconduct on the plaintiff's part gave rise to the objection made against him may probably be taken for granted; but it may not be amiss, nevertheless, before quitting the consideration of the case before us to call attention to the fact, that where misconduct of any kind on the part of a check-weigher does give rise to an objection against him, his forcible and summary removal at the mere instance of the owners of a mine alone is not the proper mode of proceeding, although no unnecessary force may, in fact be resorted to. In such a case the statute has provided (section 17), a special remedy, by declaring that if the owner, agent, or manager of a mine desires the removal of the check-weigher, on the ground of his having impeded or interrupted the working of the mine, or of his having interfered with the weighing, or of his having otherwise misconducted himself, he may complain to any Court of Summary Jurisdiction, and that such Court, if of opinion that the complainant shows sufficient ground for the removal of the check-weigher, shall call upon such check-weigher to show cause against his removal, and that if the Court shall think, on hearing the parties, sufficient ground is shown to justify the removal of the check-weigher, a summary order for his removal shall be made, and that he shall thereupon be removed, but without prejudice to the right of the miners to station another check-weigher in his place. It cannot, perhaps, be too strongly impressed upon all persons interested in such matters, that where the mode of proceeding thus provided by the Legislature for the removal of a check-weigher is applicable, no other method of removal, that may involve any exercise of force, can legally be resorted to.

GOLD AND SILVER.—Messrs. FIDLEY and ABELL write under date March 26:—The gold order for Spain has now been completed, and with the exception of a very small amount bought for India, the bulk of the arrivals have been taken to the Bank, which has received, since our last, 345,000. The Peshawar takes 10,000. Silver has fallen away rapidly from the River last quotation of 49.1d., partly owing to a large remittance from Chile, and also afterwards to the very small and unfavourable allotment of India and also afterwards to the announcement that the India Council intend offering a further 5 lakhs for tender next week (being the commencement of the financial year), and we now quote 49d. flat. The Valparaiso brought 48.1d. from Chile; the Horrox, 44,000. River Plate; the Celtic, 44,000. New York. The Peshawar takes 133,000. to India. Mexican Dollars: The arrivals by the last French steamer were disposed of at 48 1/2d. per oz., showing a considerable advance on the last quoted price. The rate subsequently declined to 48d. per oz., in sympathy with the lower quotation for silver. The Clyde takes 50,750. oz. to the East. The quotations for bullion are—Bar gold fine, 77s. 9d. per oz. standard; bar gold, containing 20 dwts. of silver, 77s. 10 1/2d. per oz. standard; bar silver, fine, 49d. per oz. standard, nominal; bar silver, containing 5 grs. paid, 49 1/2d. per oz. standard; cake silver, 52 1/2d. per oz. Mexican Dollars, 48 1/2d. quicksilver, 6s., discount, 3 per cent.



## The Mining Market: Metals, Ores, &amp;c.

METAL MARKET—LONDON, MARCH 27, 1885.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, 100 lb., Clyde...	2 2 5	—	English, ingot, f.o.b...	81 0 0	—
" Scotch pig, No. 1 Gart...	2 11 3	—	" bars .....	82 0 0	—
" " " " " "	2 14 6	—	" refined .....	83 0 0	—
" " " " " "	2 6 9	—	Australian .....	77 12 6	—
" " " " " "	2 2 0	—	Banca .....	nom.	—
" " " " " "	2 10 6	—	Straits .....	77 7 6	—
Burns, Welsh, f.o.b. Wales	4 15 0	—			
" in London .....	5 5 0	—			
" Stafford .....	6 2 6	5 0			
" in Tyne or Tees .....	4 15 0	6 0			
" Swedish, London .....	8 15 0	9 10 0			
" Welsh, at works .....	4 15 0	—			
Rails, Staff., in London .....	6 15 3	7 0 0			
Sheets, ship, in London .....	7 0 0	—			
Hoops, Staff., in London .....	6 2 6	—			
Nail rods, Staff., in Lon.	2 6 6	5 0			
STEEL.					
English spring .....	12 0 18	0 0			
" cast .....	12 0 0	0 0			
Swedish, leg. hump .....	12 0 13	0 0			
Rails at works .....	4 15 0	5 0 0			
" Light, at works .....	5 15 0	6 0 0			
LEAD.					
English pig, common .....	12 6 10	15 0			
" " " " " "	10 15 0	17 6			
" " " " " "	11 7 6	11 10 0			
" sheet and bar .....	11 7 6	12 12 0			
" pipe .....	13 5 0	—			
" white .....	14 10 0	13 10 0			
" patent shot .....	13 10 0	—			
Spanish .....	10 8 9	—			
SPELTER.					
Spanish ordinary brands .....	15 0 14	0 0			
" special brands .....	14 0 14	0 0			
English Swansea .....	15 0 0	—			
Sheet zinc .....	16 15 0	17 0 0			

\* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 5s. per box more than 10 quoted above, and add 5s. for each X. Tern-plates 2s. per box below tin-plates of similar brands.

## GENERAL REMARKS.

During the past week a fair business has been transacted in some metals, but the fluctuations in prices have not been very wide. There is still a good deal of uneasiness in the feeling, and operators often display much indecision before entering into fresh engagements. In the present disorganised and disturbed state of affairs generally, they are apt to take a gloomy view of the prospect to make preparations to meet the worst; and in this they are undoubtedly acting with discretion. The careful manner in which traders have been carrying on their business of late months is, perhaps, the principal cause of the comparative few failures that have been announced. That is particularly so with regard to metals, and business, if small, has, nevertheless, on the whole, been tolerably sound, and very few financial difficulties have been announced, although it is evident that the pinch must have been keenly felt by many a holder and operator. However, notwithstanding this feature, which is decidedly in favour of the markets, there is not sufficient strength to support prices. The backbone is too weak. It may have sufficient power to prevent prices from receding speedily, but it is not strong enough to stay the crumbling away, the incessant drooping tendency, the constant drifting from bad to worse. Little spurts every now and again occur, and are sometimes carried to extremes. Holders are anxious to get the best prices possible for their stocks, and, therefore, are naturally disposed to make the most of any favourable features that may arise in the hope of strengthening their market. While, on the other hand, those who have been "bearing" the market, those whose interests lie in further reduced rates, remain sceptical as to the future, and throw doubts upon all favourable advices and rumours which are set afloat. Hitherto their efforts to depress the markets have been successful, backed as they have always been by so many strong and adverse features. They have succeeded not only in damping the tone, but also in pushing down prices, and, whilst their success was manifest last year, it has been still more so during the first three months of the present year, because last year the depression was chiefly in prices; but now it is a depression of demand as well as prices. Last year the low prices did to a very great extent stimulate the demand for many metals, and, although there was much depression and unprofitableness in prices, still the deliveries kept good and very often far in excess of the increased supply. But from the after course of the markets it would appear that trade was then overdone, as for some time past business has been excessively dull, the supplies fully sustained, the deliveries much smaller, and, in consequence, considerable increases have been made in stocks. This is a characteristic particularly noticeable in the two leading metals—copper and iron. In the one the deliveries are very light, and in the other shipments are extremely small, both comparing unfavourably with previous periods, while in both supplies are kept ahead of requirements, and stocks are not only very heavy but are constantly increasing. Thus there is reason for the fall in values, irrespective of the outward influences, and so long as supplies are kept in excess of the demand prices must continue to drop. The ruling prices may leave a loss to many suppliers, and they may from financial reasons be obliged to close, but so long as their wealthier competitors continue to pour forth supplies so abundantly upon our markets, and show so many evidences that they have the power to still further increase their output, no permanent improvement can be made in prices. The uncertainty of future supplies is that which weighs most heavily upon our markets at the present time, although the uncertainty of political events, commercial affairs, and financial prospects also tend to a very large extent to depress the feeling. The tendency of prices this week has been principally downwards, although one or two attempts have been made to stay the retrogressive tendency, but with the exception of Scotch pig-iron the efforts have not been very successful. Copper and tin have both receded in value to some extent, but there are a few indications which would lead to the idea that the minimum for the present has been touched. Ultimately further concessions may have to be submitted to, particularly if the present rate of supply is maintained without any increase in the demand, but for the time being there is a desire shown to check the declining tendency, and to bolster the markets as much as possible. Of course this is a movement much easier with low prices than when values are high, and, therefore, if the movement be thoroughly organised and supported, holders may for a while at all events be enabled to hold to their own, and for a time prevent further depreciation.

## COPPER.

The turnover in this metal has been tolerably large, but prices on the whole have remained fairly steady. Perhaps one of the principal adverse features in the market just now is the limited number of orders that smelters are reported to have on their books. There is a general and universal complaint amongst them that business is scarce and difficult to secure. The foreign and colonial markets are evidently overstocked, the orders that are received being few and far between, and only for limited quantities, and more often than not the limits which attend them are wretchedly low. Nevertheless, there is a tendency on the part of smelters to meet buyers whenever practicable, and in consequence orders have rarely been refused, unless much below the market rates. It is, however, not so much the question of price that complaints are so frequent. That they are low, and leave little or no margin of profit is a recognised fact; but the raw

material is also very cheap, and, therefore, the cost of manufacture to smelters is not so great, and they are able to offer their output to shippers and consumers at cheap rates, and thus try and form an inducement to buyers to effect purchases. The complaints are more universal as to the absence of business than to the limited profits attending that which is secured, and whilst the smelters continue so badly off for work, whilst a check continues to be placed upon the ordinary flow of orders, deliveries must necessarily keep small, and there will be no outlet for the heavy supplies which are not only now coming forward, but which may be further augmented as time advances. The demand for India is particularly slack. In that country stocks seem to be very heavy, and so far there does not appear to be any prospect of a forthcoming increased enquiry, for there are no enquiries at prices below current rates, which is usually the case before increased orders are given out. The recently reduced prices for copper and yellow metal braziers have failed in any way to attract business, and in other descriptions more often than not reduced prices have to be accepted, in order to do what little business may be offering upon the market.

## IRON.

The demand for iron continues quiet, and the market remains very dull and depressed, while the principal, we might almost say the only thing that is likely to stimulate the demand in any way in the near future, is the increased enquiry for military requirements that may arise. Whether the country is to be drawn into a serious war or not has yet to be seen, but war preparations are being actively carried out, so that already here and there there has been some briskness at the works; but in general merchant iron for many months past there has been very little doing. Traders all round have limited their purchases to their most pressing and urgent wants. Orders have been only just sufficient to cover the daily requirements, and this, in spite of the prevalence of a range of prices for the most part so low as to have been unheard of in the previous history of the trade. Consumption is restricted and production has consequently to be curtailed. Reports reach us, we might almost say, daily of the damping down and the blowing out of furnaces in all parts of the kingdom; but yet, small as the production is now compared with what it was a short time back, it is still far in excess of what is wanted to meet current requirements; hence we find stocks accumulating to a serious extent, particularly in Glasgow, thus forming a heavy drag to the market and a certain preventive to any improvement in prices. In the interests of the trade it would seem advisable even to still further diminish the output. Such a step of course has its ill effects, for the machinery does not improve by standing idle; and further, what is of still more importance, the closing of works and the damping down of furnaces means the discharging of many hands, and throwing them perhaps out of employment for a long time, and creating amongst them considerable distress. From a high and good motive, from an intention to prevent such distress amongst those they have employed, it may be for years, many of the ironmasters have been, and still are, keeping open their works, hoping for better times, but making heavy losses upon the iron which they turn out, and often quite unable to find any outlet at all for their produce, and are obliged to augment their already too heavy stocks. At the same time financial difficulties in the long run necessitate their closing, and it is therefore only postponing the evil day to some further date. Such has been the case with many of the works recently, and one after another have been closing their doors, until now there is great stagnation in the trade. Nevertheless, it is evident that the trade cannot go on in the same manner as it has been doing with supplies cut down as they are, yet in excess of the demand. More furnaces will sooner or later have to be blown out, and more work will have to close unless a complete change comes over the trade and that very speedily. The longer the production is maintained above the requirements, and stocks are allowed to accumulate, the longer it will be before any real and general revival occurs. The Glasgow warrant market opened on Monday with a steady tone, and a fair business was done from 41s. 2½d. to 41s. 3d., and on Tuesday there was more animation, and various transactions took place between 41s. 3d. and 41s. 6½d., and sellers remained at the close at the higher figure, but there were no buyers above 41s. 5d. On Wednesday the market was strong, and a large business was done between 41s. 6d. and 41s. 7½d.; while yesterday there was scarcely so much firmness, a moderate business being done between 41s. 4½d. and 41s. 5½d., and the closing figure to-day is 41s. 5d. The shipments last week were 7299 tons, against 11,577 tons for the same week of last year, being a decrease of 4278 tons, and which makes the total shipments for the whole of this year 93,991 tons, against 117,312 tons for the same time of last year, and 129,401 tons for the similar period of 1882. There are still 92 furnaces in blast, and the public stock has been further increased by 1539 tons, and now amounts to 591,394 tons, against 589,855 tons last week. The imports of the Middlesbrough pig-iron into Grangemouth last week were 7551 tons, against 4520 tons for the same week of last year, being an increase of 3031 tons, and which makes a total increase for the whole of this year compared with last of 30,592 tons. Business upon the Cleveland market has been dull, although the tone is reported a shade firmer. Second-hand lots are offering at 34s. for No. 3, and some forward lots have been sold thereat. A few makers quote 3d. above that figure, but do not care to sell except for immediate delivery. Owing to the small stocks of No. 4 forge prices are relatively higher compared with No. 3, the present price being 33s. 3d. There is nothing doing in warrants, and the nominal price is 34s. The public stock has not undergone any change, and the shipments have been small, only amounting last week to 15,000 tons. There is not much alteration to report in the manufactured branch of the trade; and common bars are quoted at 47. 17s. 6d., angles at 47. 10s., ship-plates at 47. 15s., and sheets at 67. 10s. per ton. Political events are said to disturb the Wolverhampton market to a considerable extent, and buyers will not purchase for forward delivery at current rates, whilst orders at the various mills are becoming more and more limited, and stocks are rapidly accumulating. A moderate business has been done with the United States, and the price of common bars, hoops, and strips is 57. 5s. to 57. 10s., medium qualities of hoops being 10s. to 15s. dearer. All-mines pigs are offering at 57s. 6d., hematites at 55s., and cinder pigs at 36s. 3d. Very few transactions are said to have been carried through upon the Birmingham market, and those that have been given out have been for very small quantities. No particular change is expected until after the Quarterly Meeting, as the holidays intervening will necessarily keep business quiet; but a slightly better enquiry may, perhaps, before very long be expected for South America. In the absence of demand prices are unaltered, but some concessions would doubtless be made if orders were offered firm. Sales of pigs continue difficult to effect at current rates.

## TIN.

A comparatively small business only has been transacted in this metal, and prices have not undergone much change, the principal business having been carried through at 77. 12s. 6d. to 77. 17s. 6d. This however, is rather a heavy fall upon the price at the close last Friday, the fall being effected principally upon Saturday, and again on Monday; but since there has been a good deal of steadiness, and while sellers have not shown much disposition to give way in their prices, buyers have been equally

slow to pay any advance. The market may have been kept steady in order to see what prices were likely to be realised at the Dutch sale yesterday; but when the result of that was known the impression upon our market was not very great, and no alterations were made in the official quotations; but there were sellers at the close at the lowest figures of the day. The average price realised at the public sale was 49½ g. for Banca, and 47½ to 47¾ g. for Billiton, which is equal to 80½ 5s. and 79½ 10s. respectively in Holland. There is no new feature to cause any material influence to the market, and the prospects of the trade are still uncertain, because the metal is regulated so much by the movements of operators; but in these disquieting times, when there is so much to disturb and disorganise the normal condition of the market, it is scarcely likely that operators will take a very cheerful view of the future, or operate for any length of time in a way favourable to an advance. There is so much all round to discourage such a movement, so much to unsettle holders, and to unsettle the markets, that operators will naturally be slow to follow up any advance. There is no reason to doubt but when trade generally becomes better tin will be amongst the first branches of commerce to improve, because the question of supply and demand is well considered, and the supplies are regulated in accordance with requirements.

**STEEL.**—A fair business continues to be transacted in this metal, and some large shipments of rails have been made to India, whilst there appears to be more general demand both for steel rails and plates; and at Birmingham there is a very fair enquiry for steel sheets for nail-making purposes.

**TIN-PLATES.**—The demand is not very brisk, but prices are steady.

**SPELTER.**—The market is quiet, with a moderate demand; but prices are unchanged at 13½ 15s. to 14½ for ordinaries, and 14½ to 14½ 5s. for specials.

**LEAD** is dull and lower, and there are sellers of Spanish at 10½ 7s. 6d., and of English pigs at 10½ 12s. 6d. to 10½ 15s. per ton.

**QUICKSILVER.**—The importers' price is maintained at 6½, but several second-hand parcels have been forced off at irregular prices.

Our usual telegram from Cornwall this evening says:—Two causes have contributed to bring about comparative dullness to-day in the Cornish Mine Share Market. The price of tin is less firm than it was a few days ago, the drop being attributed to the ominous political reports that are current. Secondly, it has, unfortunately, happened that this week meetings in two of the mines which are unprosperous have fallen due, and the result in each case has been to make a heavy demand on adventurers' pockets. These two mines are Wheal Uny, where a 3½ call was made, and Cook's Kitchen, the shareholders in which mine met this morning. The loss on the four months' working was over 32000l.; this brought up the total balance to over 90000l. A call was made of 2½ per share. To curtail loss, operations are for the present to be restricted mainly to sinking shaft and reaching junction of main and south lodes. Capt. Thomas believes this junction will show rich deposit of tin. Good business to-night in Wheal Bassets at 6 to 6½; West Frances, 9½ to 9¾; Dolcoaths, 6½; and East Pool, 42, for meeting.

**THE MINING SHARE MARKET** has been firm and more active this week, notwithstanding the dealers have been chiefly occupied in the settlement of the usual fortnightly account. Tin mines are the most active, and the chief demand has been for West Frances, Wheal Bassett, West Kitty, South Frances, East Blue Hills, East Pool, Dolcoath, and a few others, but, on the whole, quotations must be taken as almost nominal.

**TIN** remains quiet and without much change; but the increased demand for shares in Cornwall would seem to point to an expected advance in the standards for ore.

Carn Breas are quoted 2½ to 3; Cook's Kitchen, 9 to 10; Dolcoath, 68 to 70; East Pool, 42 to 43; East Blue Hills, 6s. to 8s. The lode in the bottom of the shaft has improved to 15½ per fathom. Killifreth, 9s. to 11s.; New Kitty, 15s. to 20s.; South Condurrow, 7½ to 8½; South Frances, 9½ to 10½; Tincroft, 6½ to 6¾; West Bassett, 2½ to 2¾; West Frances have been in good demand, and leave off at 9½ to 10½. West Kitty, 9 to 9½; Wheal Agar, 19 to 20. Wheal Bassett have been in request at 5½ to 6½; Wheal Metal and Flow, 10s. to 15s.; Wheal Grenville, ½ to 8; at the meeting on Wednesday a dividend of 2s. 6d. per share (7500l.) was declared. The accounts showed tin sales 6278½; costs, 5575½; profit on four months' working, 697½; balance in hand, 1256½. The mine has improved in the 150 end east, and although the eastern stopes have fallen off the agents hope to keep up the returns of about 36 tons of tin a month. Wheal Uny meeting was held on Tuesday, and a call of 3½ per share made. The sales of tin realised 2092½, and showed a loss on four months' working of 2725½, and a balance of liabilities of 5718½. The call, which amounts to 78000l., is made payable in three instalments. West Godolphin, 1 to 1½; at the meeting here a call of 1s. per share was made. The tin sold for four months realised 1251½; the costs were 1616½; the balance in favour of the mine, 44½. Mounts Bay, 1s. 6d. to 2s. 6d.; Par Tin, 1 to 1½; South Crofty, 3½ to 3¾; Wheal Kitty (St. Agnes), 10s. to 15s.

**COPPER** shows no improvement at present, and there is scarcely any business doing in copper mines. Quotations, therefore, are merely nominal. Bedford United are quoted 10s. to 12s. 6d.; Devon Great Consols, 1½ to 1¾; Gunnislake (Clitters), 6s. to 8s. Wheal Crebor, ¾ to 1; the 144 west is improving as it approaches the rich course of ore gone down in the bottom of the 120. It is now worth 4 tons per fm., and the various stopes in the mine 51 tons copper ore and 15 tons mundie per fm. The sampling this week will be about 480 tons. New West Caradon, 1s. 6d. to 2s. 6d.; West Caradon, 1s. to 2s.; West Seton, 3½ to 4.

**LEAD** remains quiet, and no business doing in lead mines, prices of which are merely nominal. Vans are quoted 11s. to 13s.; Great Laxey, 8 to 8½; Roman Gravel, 3 to 3½; Leadhills, 1 to 1½. D'Eresby, 10s. to 15s.; the prospects are said to be improving here, and a sale of lead will shortly take place. Standard Lead, 1½ to 1¾; Old Shepherds, 5s. to 7s.; East Wheal Rose, 4s. to 6s.

**FOREIGN.**—Balkis, 2s. 6d. to 3s. 6d.; Batsberg, 9s. to 11s.; Callao Bis, 8s. to 10s.; Cape Copper, 33 to 35; Chile Gold, 6s. to 7s.; Colorado, 2 to 2½; Columbian Gold, 8s. to 9s.; Copiapo, 1½ to 1¾, ex div.; Corporation of South Australia, 1s. 6d. to 2s. 6d.; Frontino and Bolivia, 6s. to 8s.; La Plata, 5s. to 7s.; Lisbon Berlyn, 4s. to 5s.; Montana, 1½ to 1¾; Mysore, 1 to 1½; Nundydoo, 6s. to 8s.; Orita Gold, 17s. 6d. to 22s. 6d.; Oscar, 6s. to 7s.; Panulillo, 1½ to 2; Richmond, 3 to 3½; St. John del Rey, 65 to 70; Santa Barbara, 1½ to 1¾; United Mexican, 3½ to 3¾; Indian Consolidated, 2s. to 3s.; California, 4s. to 6s.; Eberhardt and Aurora, 2s. to 3s.; Hoover Hill, 4s. to 5s.; New Callao, 4s. to 5s.; Nouveau Monde, 2s. to 3s.; Organos, 8s. to 10s.; Potosi, 10s. to 12s. 6d.; Ruby, 4s. to 6s.; Schwab's Gully, 4½ to 4¾; Tolima, A, 3½ to 3¾; Victoria Gold, 7s. to 9s.; Western Andes, 4½ to 5.

For the past quarter New South Wales revenue amounted to 2,202,306½, being an increase of 366,094½, of which taxation yielded 70,843½. The land sales revenue returned an increase of 183,044½, but the rents of sheep and cattle runs were lower. The railway receipts were 715,208½, which shows an increase of 57,853½ for the quarter. The Post Office revenue shows an increase of 66,172½. The year's revenue reached 7,117,591½, or an increase of 641,457½, the Customs yielding a very satisfactory return, amounting to 1,726,012½, compared with 1,546,845½ in 1883. The total expenditure out of the Consolidated Funds has been 8,905,586½.



## Mining Notes.

SOME hundreds of shares in the Trebartha Lemanne Mine have changed hands privately within the last few days at 5s. per share.

THE Montana Company (Limited) has received the following telegram from the manager:—Run third week March 709 tons, yielding \$17,329.

THE Queensland gold mining industry continues in a flourishing condition. Fresh discoveries of great value have recently been made in old and new fields.

THE London and South African Exploration Company (Limited) has declared an interim dividend of 2s. 6d. per share, less income tax, for the quarter ending the 31st instant.

MR. E. F. COLMER, secretary of the South Condurow Mine and the Gawton Company (Limited), has removed to the offices of Messrs. Clark and Co., Windsor Chambers, Great St. Helens.

A GOLD field has been discovered at Long Plains, on the west coast of Tasmania. Several parties of diggers are already on the ground, and doing well, but the report of the Government Inspector is unfavourable.

MESSRS. Barrington and Co., of Mark-lane, have been appointed by the Naval Steam Coal Company their sole London agents for the sale of their "Naval" Steam Coal and No. 3 Rhondda Coal and Coke.

At the Wheal Uny meeting, held on Tuesday at the mine, the accounts showed a balance against the adventurers of 5718l. 2s. 3d., and a call of 3l. per share was made. A committee has been appointed to consider the condition of the company, and report to a future meeting.

SHAREHOLDERS in public companies will be interested to know that on Monday last the Vice-Chancellor, in the matter of the Tambracherry Estates Company (Limited), held that it was necessary to advertise a petition to confirm an order for the reduction of capital under the Act of 1877.

AMONG the plant required for the Suakin and Berber Railway Messrs. Lucas and Aird have specified a number of Norton's Abyssinian tube wells with pumps and driving apparatus, which Messrs. Le Grand and Sutcliffe, of Bunhill-row, have received orders to prepare for immediate despatch to Suakin.

It is not probable that the report of the Royal Commission on Accidents in Mines (on which enquiry was made in the House of Commons on Monday night) will be presented to Parliament this side of Whitsuntide. The experiments have not yet been concluded, and the report is still in an inchoate state.

A meeting of the Accidents in Mines Commission was held on Tuesday and Wednesday at its offices, Victoria-street, Westminster. There were present the Chairman, Mr. Warrington W. Smyth, F.R.S., Sir Frederick Abel, C.B., F.R.S., Mr. Thomas Burt, M.P., Prof. Clifton, F.R.S., Sir George Elliot, M.P., and the secretary, Mr. Arthur J. Williams.

At the general meeting of Wheal Grenville Mine, on Tuesday, the usual dividend of 2s. 6d. per share for the quarter was made. Since the meeting, at which an improvement was reported in the 150 fm. level east to 25l. per fathom, a report, received 26th inst., from Captain T. Hodge, says, "I am pleased to inform you that our 150 east end is further improved, worth to-day 45l. per fathom."

A LIMITED company, capital 25,000l., in 1l. shares, has been formed to acquire and work the Polyear and Bosinver Consols Mines, in the parish of St. Mewan, near St. Austell, and directly on the junction of the Polgooth district. There is a certain amount of machinery and stamps already on the mine, but more plant and stamps are required "to do anything like justice to such a property."

THERE is no point of special interest or importance to notice in connection with the proceedings at the meeting of shareholders in the West Godolphin Mine, held on Tuesday last. The returns of tin for the past 12 weeks have been something like 14 tons in excess of the previous quarter. It may be mentioned that this mine is getting the best price for tin of any mine in Cornwall. A call of 1s. per share was made.

MOST satisfactory driving with the boring-machine is reported from Tincroft Mine. In the course of four weeks a tunnel 10 fms. in length has been cut through a blue and hard granite by a machine of Capt. W. Teague, jun.'s, invention—the "Cornish Boy." This work has been carried out at the bottom of the downright shaft, at which point Capt. Teague has also his ventilator placed 70 fms. from the men.

STATE Mine Inspector Wilson has prepared a list of the incorporated mines of the State of Iowa, to be used in his forthcoming official reports. It shows the extent of the mining industry in Iowa to be much larger than is commonly supposed, there being 170 incorporated mining companies. Some of them operate several mines. The largest number are in the vicinity of Des Moines, 29 companies being located in Dallas County.

ARRANGEMENTS have been concluded between the Home Office and those interested in the manufacture and storage of dynamite or other explosives for the better protection of the numerous magazines throughout the country. In remote districts where magazines are not within the view of any habitation the proprietors may be required to provide special watchers, but in ordinary cases it is believed that the requirement of stronger doors and better locks will be sufficient to prevent any felonious tampering with the magazines or their contents.

On Monday, February 9, a cake of gold, weighing 200 ozs., was brought to Adelaide from the New Era claim, and left at the Commercial Bank of South Australia, King William-street. The block is the first product of the battery from the bottom of the hill going north, where there is a reef 16 ft. in width, of which 10 ft. have been taken for crushing. The time required to get out the stone of which the cake is the production was 24 days. The mining manager states that since the machinery started at the mine everything has worked admirably.

A CORRESPONDENT writes from Rhoollanerchrugog:—In consequence of the rapid exhaustion of the old coal fields of this populous district, the coal miners recently organised a boring enterprise to seek fresh seams. After many difficult trials, in which the cost has mainly been defrayed by the colliers, the great object was successfully reached at noon on Monday. Only a part of the seam has yet been bored, but its bearing on the Raabon coal field cannot be over-estimated. A new coal field of great magnitude appears to have been discovered.

At Leadhills the several ends driving are improving for lead ore, and the bottom level is producing 4 tons of rich lead ore per fathom, a very fine lode, promising further improvement.

At Devon Great Consols Mine driving is now being continued by the side of the lode on the south part of same in the 220 west for more speedy progress, and when next taken down fair samples of tin will be obtained. The lode in the eastern shaft is producing good copper and mundaic ores.

THE agent at Drakewalls states this week that the lode and branches in the engine-shaft sinking below the 102 maintain their value of 12l. per fathom, and the strata is very congenial for tin ore. The east end of the 50 is worth 8l. per fathom. The north lode is producing good tinstuff for the stamps.

At Roman Gravels the levels continue to open out well in the drive north and south. The half-monthly sale of 100 tons lead ore last week realised 737l. 10s., and a further sampling of 100 tons has been made this week, to be sold next week, which will leave a fair monthly profit, notwithstanding the low prices for lead ores.

At the meeting of the shareholders of the Yorke Peninsula Mining Company (Limited), on Wednesday, the resolution came to at a previous meeting to amalgamate with the Ravenscliff Mining Company was confirmed. Two or three of the shareholders seemed to think the Ravenscliff were getting the best of the bargain; but looking at the matter from a business point of view it is difficult to see how fairer terms could have been arranged. The directors have worked hard for a long time to make the company a success, but all their efforts have been thwarted by the continuous decline in the price of copper. There seems to be a pretty unanimous opinion that the property is valuable, and can be worked at a profit when a better price rules for that metal.

THE resolutions having for their effect the reconstruction of the Nacupai Gold Mining Company were unanimously adopted at an extraordinary meeting of shareholders held on Monday. The new company will start with a nominal capital of 600,000l. four-sixths in preference shares, to be exchanged for the existing preference shares, and the balance in 1l. ordinary shares, upon which there will be a liability of 3s.; that is to say, the shares will be credited with 17s. paid. Mr. J. C. F. Lee, who presided, mentioned that arrangements are nearly completed by which at least eight-tenths of the property will be restored to the company. The property has for near neighbours the Callao, the Chile, and the Panama Mines, and as the reconstruction is supported by the largest and most influential shareholders, there is little doubt that it will be carried through successfully.

THE balance-sheet and report from the managers of the Great Laxey Mining Company (Limited) are issued in anticipation of the half-yearly meeting, convened for April 8. The directors regret that the continued downward tendency in the price of metals, and other causes quite beyond their control, have interrupted the regular payment of dividends. They are, however, pleased to state that they anticipate being able to declare, at their meeting in April, a dividend of 5s. per share. The accounts for the half-year to February 7 show that sales of lead and blende realised 22,463l., which, with a balance of 2938l. brought down, gives a total of 25,401l. On the other side labour has cost 11,178l., and the next heaviest items are—merchants' bills, 3768l. and royalties, 1530l. The dividend of 5s. per share, paid in October, absorbed 3750l.

On Saturday night the New Oaks Colliery, Barnsley, belonging to Messrs. Charles Cammell and Co., was lit for the first time by electric light. There are over 150 incandescent lamps (Muller's patent) in use. The whole of the surface, including manager's house, offices, engine-houses, mechanics, and lamp shops, wagon-ways, yards, pit bank, screens, locomotive shed, coal-washers, boiler-house, and brick sheds, including lights at the pit bottom, and principal roads, were lit, and gave great satisfaction. Each lamp is controlled separately, switches and safety-fuses are inserted into each main branch and lamp circuit. The dynamo-machine is driven from the fan engine, and is of a self-regulating type. This is the largest electric light installation ever put into a colliery. It was erected by the Simplex Electric Light Company (Limited), Valley Mills, Eccles, Manchester, under the superintendence of their electrician, Mr. F. F. Bennett, who was heartily congratulated on the success of the installation.

THE directors of the Almada and Tinto Silver Mining Company, after consideration of Mr. V. M. Clement's report on the mines, recommend the shareholders at once to carry out the proposal already submitted to them—To wind-up voluntarily, and to reorganise the company with a capital of 210,000 shares of 1l. each, of which 80,000 fully paid-up shares are to be issued to the debenture-holders, in cancellation of the 20,000l. 10l. per cent. debentures, and to issue to the shareholders the remaining 130,000 shares, with 17s. 6d. paid upon them—being one share for every existing share—subject to the liability thereon of 2s. 6d. per share, which is to be called up as required. The amount immediately necessary will be 1s. per share, which the directors think will probably be sufficient to carry out the explorations recommended. Counsel has been instructed to prepare the documents necessary to carry out the voluntary liquidation and reconstruction of the company, and the shareholders will be called together at the earliest possible moment to consider and pass such resolutions as counsel may advise.

THE Transatlantic Steam Coal Company, who are opening up a new colliery in the Garw Valley, Glamorgan, have succeeded in striking on their property what is known in the Rhondda as the "Upper Four-feet seam" of steam coal, which their engineer, Mr. William Thomas, F.G.S., of Bryn Ayl, Aberdare, pronounces "excellent, with good top or roof." In sinking to this vein, we learn that the company have also struck several smaller veins of house coal, including the "Victoria, or Three-feet," and the "yard" veins, which have also proved very satisfactory, with good roofs. Under the seam now struck, and at a comparatively short depth it is anticipated they will come upon the "Lower or Rhondda Six-feet," and the "Nine-feet veins," both these having been proved by the Ocean Colliery on the one side of the Transatlantic's property, and the Ffaldra on the other. Some of the best mining engineers in South Wales have estimated that the Transatlantic Company's property will yield 14,126,900 tons of marketable coal, and that calculating the output at 800 tons per day, for which the necessary machinery is now being erected, and at 260 working days in the year it will endure working for a period of 70 years. The shares of this company are very influentially held in the district.

THE Hon. Alfred Lyttelton has presented to the Secretary of State his report on the circumstances attending the explosion which occurred at the Pochin Colliery, Tredegar, on November 8 of last year, whereby all the men in the pit at the mine, 14 in number, were killed. Mr. Lyttelton watched the proceedings at the inquest on behalf of the Secretary of State, and after a thorough examination of all the circumstances he has now produced his report. After describing the colliery itself, its system of ventilation—which in part he finds irregular—and the symp-

toms and effects of the explosion, Mr. Lyttelton examines into the three theories propounded by different parties as to its origin. He finds that the most tenable theory is that of Mr. Cadman, Inspector, and Mr. Bain, sub-Inspector of Mines for the district—that a large quantity of gas was suddenly liberated from some old deep workings, and was fired by a Clanny lamp used by one of the men working near the spot. He thinks that the general management of the colliery was good, but there are certain matters which he brings to the attention of the proprietors—such as shot-firing in dangerous places, the coal dust in very considerable quantities, which aggravated the effect of the explosion want of daily examination, and the danger in the use of the Clanny lamp, which is not a safety-lamp when gas is carried against it by ventilation at a very high rate of velocity. An elaborate plan of the colliery, and a section showing the ventilation, will enable the reader to follow exactly the conclusions to which Mr. Lyttelton comes as to the cause and locality of the explosion.

SURJOINED is the report of the directors of the Linares Lead Mining Company (Limited) to be presented at the meeting, on Thursday next:—The accounts now presented to you show a profit on the past half-year's working of 2585l. 14s. 7d.; this is an increase of 352l. 1s. 6d. on the profit made during the previous six months. The usual quantity of ore has been raised from Warne's and the Quinientos Mines, and notwithstanding the rate of extraction which has been maintained, the reserves of ore, as lately estimated, show no diminution on the quantity reported in September last—5450 tons. The lodes, both at Warne's and at the Quinientos Mines, are at present turning out better than they have for a long time past. At the 135, east of Warne's engine-shaft, the lode is worth 2½ tons of lead ore per fathom, and Mr. Tonkin reports it to be "a large, strong, and valuable lode." Some of the other levels in this mine are also opening up profitable ore ground. At Quinientos, in the 90, east of Taylor's shaft, the lode is worth 5 tons of lead ore per fathom, and other points in this mine are looking well, so that altogether the company's mining prospects are most encouraging. The smelting of the ore has been carried out at a very moderate cost at the company's smelting works at Cordova, full details of which are given in the report. The balance at the credit of the profit and loss account on the 31st December last was 2699l. 15s. 11d.; out of this sum the directors declared a dividend of 3s. 6d. per share, payable on the 28th inst., 2625l.; leaving a balance to carry forward of 74l. 15s. 11d. The directors regret to report that Mr. John P. Judd, who has for 19 years been a director, and rendered valuable services to the company, has been compelled to resign in consequence of ill-health. To fill the vacancy thus created the directors, pursuant to the powers vested in them by the Deed of Settlement, have appointed Mr. Richard Donagan, who is duly qualified for the office. This will be submitted to the shareholders for confirmation. Mr. Donagan having been an auditor of the company ceases to hold that office, and Mr. James W. Jepps, duly qualified, is a candidate for election as an auditor.

THE following is from the report of the directors of the Fortuna Company (Limited) to be presented at the meeting on Thursday next:—The operations carried on at the mines during the six months to the 31st December last have resulted in a profit of 3688l. 10s. 9d. This is not so large by 203l. 5s. 8d. as the profit to the 30th June last, the reason being that the tributers have not raised so much ore, but there has not been any falling off in the general productiveness of the lodes opened out; in fact, the Salidos Mine has considerably improved since the last general meeting. It is in the deep levels at this mine where the improvement has taken place, the lode in the 145 and the 160 being in each case reported as worth 3 tons of lead ore per fathom. The 175 will shortly come under this valuable run of ore ground. The Canada Inco and the San Anton Mines continue to yield good quantities of ore, but none of the levels in these mines are at present rich. The reserves of discovered ore are estimated at 9500 tons, being the same quantity as they were estimated at in September last. No permanent improvement has taken place in the lead market. Prices were slightly better towards the end of 1884, but they have again relapsed to the low prices which ruled about nine months ago. The audited accounts show that the balance at the credit of the profit and loss account on the 31st December last amounted to 3881l. 1s. Out of this a dividend of 2s. 10d. per share has been declared, payable on the 28th inst., 3541l. 13s. 4d.; placed to reserve fund, 200l.—3741l. 13s. 4d.; the balance to be carried forward being 139l. 7s. 8d. Mr. John P. Judd, who has been a director ever since the formation of the company, has been compelled to resign in consequence of ill-health, and the directors much regret the loss of such a valuable colleague. To fill the vacancy thus created the board recommends that Mr. Richard Donagan duly qualified be appointed, and a resolution to carry this into effect will be submitted at the forthcoming general meeting. The appointment of Mr. Donagan to a seat at the board will cause a vacancy in the auditorship and to fill such vacancy Mr. E. L. Agar, duly qualified, is a candidate.

THE following is from the report of the directors of the Almillas Company (Limited) to be submitted at the meeting on Thursday next:—For the half-year which terminated on the 31st December last a profit is shown of 2096l. 16s. 9d., adding to this the profit for the six months to the 30th June, 1884, 2652l. 4s. 7d., it will be seen that the total for the year was 4749l. 1s. 4d. There was some falling off in the deliveries of ore by the tributers in the second half of the year, and this accounts for the reduced profit made during that period. Since the last general meeting San Victor engine-shaft has reached the necessary depth for a 90 fm. level. In driving on the course of the lode at this depth it has been found much richer than in the level above it, and for some time the lode yielded 5 tons of lead ore per fathom. Although not so good at present it is opening out profitable ore ground. Some of the shallow levels are producing well, and being inexpensive to work add materially to the value of the mines. The reserves of discovered ore are estimated at 3000 tons, showing no change from the previous estimate. The machinery at the mines, the smelting-works, and the desilvering-works at Cordova have been maintained in a state of efficiency, and the mines being capable of yielding a large quantity of ore the company is in a good position to reap the benefit of any advance which may take place in the price of lead. The balance-sheet shows that the amount standing to the credit of the profit and loss account on the 31st December last was 2213l. 1s. 8d., out of this the directors have declared a dividend of 1s. 3d. per share, payable on the 28th inst., 2187l. 10s., leaving a balance to be carried over of 25l. 11s. 8d. A vacancy has occurred in the directorate in consequence of the resignation, through ill-health, of Mr. John P. Judd, who for so many years was the respected Chairman of the company. Under the powers vested in them by the Articles of Association the directors have appointed Mr. Richard Donagan duly qualified to a seat at the board to fill the vacancy thus created, and this appointment will be submitted to the general meeting for confirmation. Mr. James W. Jepps is a candidate for appointment to the office of auditor of the company, to succeed Mr. Richard Donagan on his appointment as a director.



## STOCK AND SHARE LIST.

## BRITISH DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
12000 Bedford Unit, s. c. Tavis. (211 hab.)	0 14	0	3 1/2	0 1	0	0
12000 Carr Bros. c. f. Illogan	14 15	5	3 1/2	52 11	8	0
4000 Craignair Bach, s. c. Cardigan	0 0	0	0	0 5	0	0
12000 Devon Gt. Consols, c. f. Tavisock	1 0	0	1 1/2	118 7	0	0
4700 Dolcoath, c. f. Camborne	10 14	10	70	41 13	0	0
4000 East Pool, c. f. Illogan	0 9	9	43	42 6	0	0
12000 Great Holway, s. c. Flintshire	0 0	0	0	0 12	0	0
12000 Great Laxey, s. c. Illogan	0 0	0	0	0 12	0	0
4000 Green Hurl, s. c. Durham	0 0	0	0	0 12	0	0
4000 Gunnislake (Clitters), s. c.	2 2	0	0	0 19	0	0
12000 Isle of Man, s. c. Isle of Man	25 0	0	0	83 5	0	0
4000 Killfret, s. c. Chacewater	4 11	6	11 1/2	0 14	0	0
2000 Leadhills, s. c. Lanarkshire	6 0	0	0	1 7	0	0
2500 Levant, c. f. St. Just	11 0	0	0	0 2	0	0
4000 Liburne, s. c. Cardigan	18 15	0	0	0 815	0	0
12000 Mellanor, c. f. Hayle	2 6	0	0	0 4	0	0
12000 Minera Mining Co., s. c. Wrexham	0 0	0	0	0 7	0	0
20000 Mining Co. of Ireland, c. f.	7 0	0	0	0 13 1/2	0	0
12000 North Hendre, s. c. Wales	2 10	0	0	0 318	0	0
12000 Ditto	1 7	0	0	0 11 3	0	0
12000 Phoenix United, s. c. Linkinhorne	6 6	6	1 1/2	17 7	6	0
12000 Roman Gravel, s. c. Salop	7 10	0	0	0 913	6	0
6123 South Courdarrow, s. c. Camborne	7 5	7	8 1/2	11 13	6	0
6000 South Darren, s. c. Cardigan	1 16	0	0	0 4	0	0
12000 Tincroft, c. f. Pool, Illogan	14 12	6	6 1/2	51 3	6	0
12000 Van, s. c. Llanidloes (in sq.)	0 0	0	0	0 25	0	0
6000 West Basset, c. f. Illogan	7 18	6	3	28 3	0	0
6000 West Killy, s. c. Agnes	0 12	0	0	0 9 1/2	0	0
6000 Wheel Agar, s. c. Illogan	19 6	0	0	0 113	0	0
12000 Wheel Greobor, c. f. Tavisock	2 4	0	0	0 1 3	0	0
1024 Wheel Eliza Consols, s. c. Austell	18 0	0	0	0 5910	0	0
4000 Wheel Grenville, c. f. Camborne	15 0	0	0	0 2 7	6	0
4295 Wheel Killy, s. c. Agnes	5 12	0	0	0 12 18	0	0
3000 Wheel Peavor, s. c. Redruth	14 16	0	0	0 813	0	0

## FOREIGN DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
3,000 Alamillos, s. c. Spain	2 0	0	1 1/2	2 17	11	0
10,000 Almada and Tinto Consol, s. c.	1 0	0	2 1/2	0 6	3	0
20,000 Australian, s. c. South Australia	7 7	6	2 1/2	1 11	0	0
15,000 Bratsberg, s. c. Norway	4 0	0	1 1/2	1 9	0	0
30,000 California, s. c. California	2 0	0	1 1/2	0 4	0	0
12,000 Cape Colony, s. c. South Africa	0 0	0	0	0 61	7	0
6,000 Colorado United, s. c. Colorado	5 0	0	2 1/2	3 14	6	0
6,000 Copiapu, s. c. Chile (44 shares)	3 10	0	2 1/2	2 7	9	0
32,000 El Callao, s. c. Venezuela (foreign)	40 0	0	70	36 16	0	0
70,000 English & Australian, s. c. Aust.	2 10	0	0	0 3	0	0
2000 Eng.-Aus., s. c. Vict. (20,000 o.)	1 0	0	0	0 3	0	0
25,000 Fortuna, s. c. Spain	2 0	0	3 1/2	0 12	1	0
25,000 Fontana & Bolivia, s. c. New Gran.	2 0	0	6 1/2	0 8	0	0
40,000 La Plata, s. c. Leadville	1 0	0	6 1/2	0 19	10	0
13,000 Llaneros, s. c. Spain	0 0	0	3 1/2	19 16	0	0
20,000 Marbella Iron Ore, s. c. Spain	10 0	0	2 1/2	0 10	0	0
25,000 Mason & Barry, s. c. Portugal	10 0	0	7 1/2	4 3	0	0
60,000 Montana, s. c. U.S.A.	2 0	0	1 1/2	0 8	0	0
12,000 Oxford, s. c. Nova Scotia (foreign)	0 4	0	3 1/2	0 1 3/2	0	0
80,000 Quebrada, s. c. Land & Cop. Venezuela	10 0	0	3 1/2	0 6	0	0
50,000 Pamplico, s. c. Chile	4 0	0	2 1/2	0 2	0	0
25,000 Pitanguy, s. c. Brazil (in 6000 £1 pd.)	0 18	0	3 1/2	0 0	0	0
14,000 Port Phillip, s. c. France	20 0	0	4 1/2	0 3	0	0
20,000 Port Phillip, s. c. France	20 0	0	4 1/2	0 3	0	0
20,000 Rana Fortuna, s. c. Argent. Republic	1 0	0	2 1/2	0 1	0	0
54,000 Richmond Consol, s. c. Nevada	5 0	0	3 1/2	15 1	6	0
70,000 Rio Tinto, s. c. Mortgage Bds., Huvela	50 0	0	99	99	99	0
25,000 Ditto, shares	10 0	0	10 1/2	4 16	0	0
60,000 Santa Barbara, s. c. Brazil	0 10	0	1 1/2	0 12	9	0
12,000 Schwab Gully, s. c. Kimberley foreign	0 0	0	4 1/2	0 10	0	0
12,000 Scottish-Australian Mining Co., s. c.	1 0	0	2 1/2	0 2	0	0
12,000 Ditto, New	0 10	0	1 1/2	0 2	0	0
12,000 Sierra Buttes, s. c. California	2 0	0	1 1/2	0 2	0	0
24,000 Ditto, Flunna	1 0	0	1 1/2	0 1	0	0
45,000 St. John del Rey (45 Stock and multiple deals in)	65 70	0	5 p.c. for half-year, June 1882	0 6	0	0
16,000 Tambrachery, s. c. Wynad	1 0	0	2 1/2	0 6	0	0
92,000 Tharsis, s. c. s. Spain (57330 issued)	2 0	0	5 1/2	6 18	0	0
14,000 Tolima, s. c. Colombia (A shares)	5 0	0	4 1/2	6 2	0	0
4000 Ditto (B shares)	5 0	0	2 1/2	1 3	0	0
25,000 Victoria (London), s. c. Australia	1 0	0	3 1/2	13 10	0	0
12,000 United Mexican, s. c. U.S.	17 6	0	3 1/2	0 5	0	0
10,000 Victoria Nevada, U.S., Deb. Bds.	1 0	0	5	4 16	0	0
10,000 Western Andes, s. c. Colombia	5 0	0	4 1/2	4 16	0	0
2100 W. Prussian (5500 pref. sh. £10 pd.)	10 0	0	4 1/2	4 2	0	0
5190 York Pen., s. c. South Aust. Pref.	1 0	0	2 1/2	0 3	0	0

Have made calls since last dividend was paid.

## NON-DIVIDEND BRITISH MINES.

Shares.	Paid.	Last wk.	Clos. pr.
12000 Anderton, s. c. f. Devonshire	0 6	0	0
12000 Asheton, s. c. Carnarvonshire	0 0	0	0
3200 Blue Hills, s. c. St. Agnes	4 13	6	3 1/2
10000 Brada, s. c. Isle of Man	1 0	0	0
30000 British, s. c. f. Wrexham	1 0	0	0
20000 British Manganese Company	1 0	0	0
10000 Burnhope, s. c. f. Edmondshyers	0 5	0	3 1/2
20000 Bwch United, s. c. Cardigan	1 0	0	0
12000 Colcombe Consols, s. c. f. Lamerton	0 2	6	3 1/2
50000 Carn Camborne, s. c. f. Camborne	0 0	0	3 1/2
37500 Carnarvonshire Cons., s. c. f. Llanrwst	2 0	0	3 1/2
34000 Caswell, s. c. f. Cumberland	2 19	0	1 1/2
6000 Cathedral, s. c. f. Gwennap	1 16	0	0
20000 Central Fording, s. c. f. Isle of Man	1 0	0	1 1/2
300000 Clifford Amalgamated	1 0	0	1 1/2
25000 Ood-y-Fedw-Pant-y-Buarth, s. c. f.	1 0	0	3 1/2
2450 Cook's Kitchen, s. c. f. Illogan	39 0	0	0 10
32000 Craven Moor Unit, s. c. f. Pateley Bidge	1 0	0	3 1/2
50000 Creiglog, s. c. f. Denbighshire	0 17	0	1 1/2
34000 Crook Burn, s. c. f. Cumberland	0 17	0	0
6000 Deer Park, s. c. f. Stoke Climsland	2 9	8	1 1/2
12000 D'Eresby, s. c. f. Llanrwst, £1 share	0 10	0	3 1/2
12000 Derwent, s. c. f. Durham	4 0	0	0
50000 Devon Friendship, s. c. f. s. Tavisock	1 0	0	2 1/2
12000 Devon Great Unit, s. c. f. (21 shares)	1 17	6	3 1/2
50000 Drakewalls, s. c. f. Calstock	0 15	0	4 1/2
50000 Duchy Peru, s. c. f. s. Cornwall	1 0	0	1 1/2
12000 East Blue Hills, s. c. f. St. Agnes	0 6	0	6 1/2
6000 East Botallack, s. c. f. St. Just	1 2	6	3 1/2
6144 East Caradon, s. c. f. St. Cleer	5 4	6	3 1/2
15000 East Devon Cons., s. c. f. Buckfastleigh	2 0	0	3 1/2
20000 East Long Rake, s. c. f. Wales	1 0	0	0
25000 East Roman Gravel, s. c. f. Salop	1 0	0	0
18000 East Van, s. c. f. Llanidloes	5 0	0	0
2048 East Wheel Lovell, s. c. f. Helston	3 6	3	3 1/2
10000 East Wheel Rose, s. c. f. s. Newlyn East	1 0	0	1 1/2
25000 Ecton, s. c. f. Wotton	1 0	0	1 1/2
12500 Froghoch, s. c. f. Cardigan (1000 sh. iss.)	2 0	0	3 1/2
12000 Gawton, s. c. f. Tavisock	2 0	0	3 1/2
40000 Glas. Car. (30000 sh. £1 pd., 10000 sh. pd.)	1 0	0	3 1/2
30000 Gobbett, s. c. f. Devon	1 0	0	0
10000 Gogdards, s. c. f. s. Carnarvon	1 0	0	0
32000 Goginan, s. c. f. Cardigan	1 0	0	3 1/2
6000 Godevere, s. c. f. St. Cleer	1 0	0	1 1/2
8000 Great Western, s. c. f. St. Agnes	0 6	0	3 1/2
30000 Great W. Shepherds, s. c. f. Cornwall	2 0	0	1 1/2
20000 Grogwinion, s. c. f. Cardigan	2 0	0	0
10000 Gwyn-y-Mynydd, s. c. f. Flint (pref.)	4 0	0	3 1/2
8400 Hardshins, s. c. f. Westmore. (100 sh.)	0 7	6	1 1/2
12000 Herodfoot, s. c. f. near Liskeard	1 6	0	3 1/2
20000 Hingston Down, s. c. f. Calstock	0 13	0	3 1/2
15000 Holywell District, s. c. f. Flintshire	1 0	0	1 1/2
25000 Kit Hill Gt. Cons., s. c. f. s. (21 sh.)	1 2	8	3 1/2
15000 Lady Ann, s. c. f. Llanarmon	1 0	0	0
15000 Llanidloes, s. c. f. Wales	1 0	0	0
5120 Lovell, s. c. f. Wotton	2 1	6	3 1/2
9000 Marke Valley, s. c. f. Linkinhorne	7 17	0	6 1/2
8000 Mona, s. c. f. Anglesa	5 0	0	0
20000 Mona Consols, s. c. f. Anglesa	1 0	0	0
20000 Mostyn Consols, s. c. f. Flint	1 0	0	0
12000 Morfa Du, s. c. f. Anglesa	1 0	0	0
20000 Mounts Bay, s. c. f. Breage	1 0	0	2 1/2
6144 Mount Carbis, s. c. f. Redruth	1 19	0	2 1/2
12000 New Caradon, s. c. f. St. Cleer	0 8	3	2 1/2
2400 New Cook's Kitchen, s. c. f. Illogan	10 5	8	3 1/2
12000 New West Caradon, s. c. f. Liskeard	4 0	0	0
10000 New Holmshus, s. c. f. s. Callington	4 0	0	0
6000 New Killy, s. c. f. St. Agnes	1 13	0	1 1/2
25000 New Langford, s. c. f. Callington	0 3	6	2 1/2
15000 New Redmoor, s. c. f. Callington	1 5	0	0
17500 New Terras, s. c. f. St. Austell	2 0	0	2 1/2
3500 New Tincroft, s. c. f. Lelant	6 0	0	0
12000 New Trumpet, s. c. f. Wenden	1 0	0	1 1/2
30000 New Van Cons. & Glyn, s. c. f.	7 0	0	0
12000 New West Caradon, s. c. f. Liskeard	4 0	0	0
3000 New Wheel Peavor, s. c. f. Redruth	0 10	0	2 1/2
12000 North Blue Hills, s. c. f. St. Agnes	0 2	6	2 1/2
5328 North Busy, s. c. f. s. Scourie	2 4	8	2 1/2
10000 N. D'Eresby Mount, s. c. f. s. Carnarv.	1 0	0	0
25000 North Goginan, s. c. f. Cardigan	1 0	0	0
6400 North Green Hurl, s. c. f.	1 0	0	3 1/2

## NON-DIVIDEND MINES—continued.

Shares.	Paid.	Last wk.	Clos. pr.
5000 North Grogwinion, s. c. f. Cardigan	1 0	0	3 1/2
2000 North Herodfoot, s. c. f. Liskeard	0 13	6	0
2000 North Levant, s. c. f. St. Just	14 13	6	0
6000 North Molton, s. c. f. s. Devon	1 0	0	0
6000 North Trekerby, s. c. f. St. Agnes	1 0	0	0
8000 Northern, s. c. f. Durham	8 17	10	0
4000 Okef Tor, s. c. f. s. Calstock	1 0	0	0
8000 Old Shepherds, s. c. f. s. Cornwall	1 0	0	3 1/2
6000 Owen Vean & Tegur, s. c. f. s. Marazion	1 0	0	0
30000 Par. s. c. f. St. Austell	1 0	0	1 1/2
45000 Parry Corporation, s. c. f. Anglesa	1 0	0	1 1/2
7500 Pateley Bridge, s. c. f. Yorkshire	1 0	0	1 1/2
6000 Pedan-an-dra, s. c. f. R. Druth	4 10	0	3 1/2
20000 Penegarreg, s. c. f. Carmarthenshire	1 0	0	0
10000 Polberro, s. c. f. St. Agnes	0 3	0	2 1/2
12000 Polberro, s. c. f. St. Agnes	12 9	2	1 1/2
10000 Port Nigel Syn, s. c. f. s. Carnar. (4000 iss.)	0 15	0	0
18000 Pr. Patrick, s. c. f. s. (12000 p. 10 p.)	1 0	0	0
12000 Prince of Wales, s. c. f. s. Calstock	1 3	6	4 1/2
36000 Russell United, s. c. f. Tavisock	0 9	6	0
30000 Silver Hill, s. c. f. Callington	1 0	0	3 1/2
50000 Sinclair, s. c. f. s. Whitford	1 0	0	3 1/2
40000 Sordridge, s. c. f. Horrabridge	1 0	0	0
50000 South Caradon, s. c. f. St. Cleer	1 0	0	3 1/2
10000 South Carbis, s. c. f. Redruth	0 10	0	1 1/2
6000 So. Devon Unit, s. c. f. s. Buckfastleigh	1 0	0	3 1/2
5000 South Dolcoath, s. c. f. Illogan	0 19	0	3 1/2
6000 South Killy, s. c. f. St. Agnes	10 0	0	3 1/2
8000 South Penstruthal, s. c. f. Gwennap	4 2	6	3 1/2
30000 So. Phoenix & Caradon, s. c. f. Linkinhorne	1 0	0	3 1/2
6000 South Tolcarne, s. c. f. s. Camborne	5 11	6	3 1/2
2043 South Wheel Crofty, s. c. f. Illogan	7 4	6	4 1/2
4570 South Wheel Frances, s. c. f. Illogan	11 4	4	10 1/2
30000 Standard, s. c. f. s. Llanrwst	1 0	0	1 1/2
40000 Tamar, s. c. f. Bearnston	1 0	0	0
12000 Trebartha Leman, s. c. f. Northill	0 10	0	0
6000 Tregembo, s. c. f. Cornwall	4 0	0	0



## Provincial Stock and Share Markets.

**CORNISH MINING SHARE MARKET.**—Mr. S. J. DAVEY, mine share-dealer, Redruth, writes under date March 26:—We have not had a very active market this week, but Wheal Basset, Wheal Grenville, and West Frances close at an advance of  $\frac{1}{2}$  to  $\frac{3}{4}$  and 1 $\frac{1}{2}$  respectively. Carn Brea has fallen  $\frac{1}{2}$ , Dolcoath  $\frac{1}{2}$ , South Frances  $\frac{1}{2}$ , and Wheal Agar  $\frac{1}{2}$ . Wheal Basset is good to-day. Very little doing in other shares. Following are prices:—Carn Brea, 3 to 3 $\frac{1}{2}$ ; Cook's Kitchen, 9 to 11; Dolcoath, 68 to 69; East Pool, 42 $\frac{1}{2}$  to 43; Killfret,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; South Condurrow, 8 to 8 $\frac{1}{2}$ ; South Crofty, 3 $\frac{1}{2}$  to 4; South Wheal Frances, 9 $\frac{1}{2}$  to 10; Tincroft, 6 $\frac{1}{2}$  to 6 $\frac{3}{4}$ ; West Basset, 2 $\frac{1}{2}$  to 2 $\frac{3}{4}$ ; West Frances, 10 $\frac{1}{2}$  to 10 $\frac{3}{4}$ ; West Killy, 9 $\frac{1}{2}$  to 9 $\frac{3}{4}$ ; West Polbreon,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; West Seton, 4 to 4 $\frac{1}{2}$ ; Wheal Agar, 19 $\frac{1}{2}$  to 19 $\frac{3}{4}$ ; Wheal Basset, 5 $\frac{1}{2}$  to 5 $\frac{3}{4}$ ; Wheal Grenville, 7 $\frac{1}{2}$  to 7 $\frac{3}{4}$ ; Wheal Killy (St. Agnes),  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Trevaunance, 2 $\frac{1}{2}$  to 2 $\frac{3}{4}$ ; Polbreon, 2 to 2 $\frac{1}{2}$ .

—Messrs. ABBOTT and WICKETT, stock and sharebrokers, Redruth, write under date March 26:—The market has been steady this week, and a fair business has been transacted in several mines. Wheal Basset has advanced to 6 buyers, in consequence of increasing returns and improved prospects. Grenville and West Frances are also better. Closing quotations subjoined:—Carn Brea, 2 $\frac{1}{2}$  to 3; Cook's Kitchen, 9 to 10; Dolcoath, 68 $\frac{1}{2}$  to 69; East Pool, 42 $\frac{1}{2}$  to 43; Killfret, 10 $\frac{1}{2}$  to 11; New Killy,  $\frac{1}{2}$  to 1; Polbreon, 2 $\frac{1}{2}$  to 3; South Condurrow, 7 $\frac{1}{2}$  to 8; South Crofty, 3 $\frac{1}{2}$  to 4; South Frances, 9 $\frac{1}{2}$  to 10; Tincroft, 6 $\frac{1}{2}$  to 6 $\frac{3}{4}$ ; Trevaunance, 2 to 2 $\frac{1}{2}$ ; West Basset, 2 $\frac{1}{2}$  to 2 $\frac{3}{4}$ ; West Killy, 9 $\frac{1}{2}$  to 9 $\frac{3}{4}$ ; West Polbreon,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; West Seton, 3 $\frac{1}{2}$  to 4; Wheal Agar, 19 $\frac{1}{2}$  to 20; Wheal Basset, 5 $\frac{1}{2}$  to 5 $\frac{3}{4}$ ; Wheal Grenville, 7 to 7 $\frac{1}{2}$ .

—Mr. M. W. BAYDEN, Liskeard, writes under date March 26:—The mining market presents a steady appearance, and prices remain much the same. There has been an enquiry for Cook's Kitchen on an improvement in the shaft, and nearing the junction of Dunkin's and Chappel's lodes. Quotations as follows:—Bedford United, 1 to 1 $\frac{1}{2}$ ; Carn Brea, 3 to 3 $\frac{1}{2}$ ; Cook's Kitchen, 11 to 12, c. p.; Dolcoath, 68 $\frac{1}{2}$  to 69; Devon Consols, 1 $\frac{1}{2}$  to 1 $\frac{3}{4}$ ; East Caradon, 1s. to 1s. 6d.; East Pool, 41 $\frac{1}{2}$  to 42; Glasgow Consols,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Gunnislake (Clitters),  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Killfret,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Marke Valley,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Pedn-an-drea, United,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Phoenix United Mines, 1 $\frac{1}{2}$  to 1 $\frac{3}{4}$ ; Prince of Wales,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; South Caradon,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; South Condurrow, 7 $\frac{1}{2}$  to 8; South Crofty, 4 to 4 $\frac{1}{2}$ ; South Frances, 9 $\frac{1}{2}$  to 10; Tincroft, 6 $\frac{1}{2}$  to 6 $\frac{3}{4}$ ; West Basset, 2 $\frac{1}{2}$  to 2 $\frac{3}{4}$ ; West Frances, 9 $\frac{1}{2}$  to 9 $\frac{3}{4}$ ; West Killy, 9 to 9 $\frac{1}{2}$ ; West Phoenix,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Wheal Agar, 19 to 20; Wheal Basset, 5 $\frac{1}{2}$  to 5 $\frac{3}{4}$ ; Wheal Crebor,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Wheal Grenville, 6 $\frac{1}{2}$  to 6 $\frac{3}{4}$ ; ex div.; Wheal Killy,  $\frac{1}{2}$  to  $\frac{3}{4}$ .

—Mr. JOHN CARTER, mine share-dealer, Camborne, writes under date March 26: The Cornish share market is steady. Wheal Basset has improved to 6 buyers, West Frances to 10, and Wheal Grenville to 7 $\frac{1}{2}$ . Closing prices are subjoined:—Carn Brea, 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$ ; Cook's Kitchen, 9 to 10; Dolcoath, 68 $\frac{1}{2}$  to 69; East Pool, 42 $\frac{1}{2}$  to 43; Killfret, 10 $\frac{1}{2}$  to 11; New Cook's Kitchen, 3 $\frac{1}{2}$  to 4; New Killy,  $\frac{1}{2}$  to 1; Pedn-an-drea, 6s. to 8s.; South Condurrow, 7 $\frac{1}{2}$  to 8; South Crofty, 3 $\frac{1}{2}$  to 3 $\frac{3}{4}$ ; South Frances, 9 $\frac{1}{2}$  to 10; Tincroft, 6 $\frac{1}{2}$  to 6 $\frac{3}{4}$ ; West Basset, 2 $\frac{1}{2}$  to 2 $\frac{3}{4}$ ; West Frances, 10 to 10 $\frac{1}{2}$ ; West Killy, 9 $\frac{1}{2}$  to 9 $\frac{3}{4}$ ; West Polbreon,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; West Seton, 4 to 4 $\frac{1}{2}$ ; Wheal Agar, 19 $\frac{1}{2}$  to 19 $\frac{3}{4}$ ; Wheal Basset, 5 to 5 $\frac{1}{2}$ ; Wheal Grenville, 7 $\frac{1}{2}$  to 7 $\frac{3}{4}$ ; Wheal Killy,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Wheal Polbreon,  $\frac{1}{2}$  to  $\frac{3}{4}$ .

**MANCHESTER.**—Messrs. JOSEPH B. and W. P. BAINES, stock and share brokers, Queen's Chambers, Market-street, write under date March 26:—The march of events touching the Afghan question has not developed any element that can be taken as having a pacificatory tendency, and both sides to the dispute are pushing forward arrangements to guard against surprise. This action, which of itself does not mean of necessity war, still has an ugly appearance on the face of it, and the markets have again appeared to take the ugliest view of the situation, resulting in another severe depreciation of values for home railway and other stocks, the downward movement having (with some very slight recoveries) been continuous up to yesterday afternoon, when some very low figures were quoted, from which however somewhat of a general rally has occurred, but the upward turn has as yet assumed very slight proportions. The influences usually affecting railway investments are all overshadowed by the simple question of war or no war, and according as movements, diplomatic and otherwise, or rumours of such, are circulated tending to one view or the other, the market responds very sensitively, but as gloomy forebodings have ruled the balance of change adverse, and that decidedly, British funds, as may be expected from the expenditure incurred in preparations alone, are lower. Foreign funds again show an all-round decline. At one period of the week Turkish and Italian showed turn better, but since have joined the majority. Turks standing at figures ruling a week ago, whilst Italians now mark a fall on the week. Russian 5 per Cent. (1875) have fluctuated, and are above the lowest, being now only 1 lower than a week since. Egyptian 10 per Cent. (1875) 1. Preference 1 $\frac{1}{2}$ . Daira Sanieh  $\frac{1}{2}$  to 1. Argentine Harb. Bonds, 135 to 140. Brazilian 5 per Cent. (1875) 1. Portuguese 4 $\frac{1}{2}$ , and some others fractionally lower. In colonial shares better figures were quoted, the advance in which has since been extinguished. New Zealand 5 per Cent. Consols are 2, and South Australian 4 per Cent. Inscribed  $\frac{1}{2}$  higher. Canada 4 per Cent. 1, and New Zealand 5 per Cent. (10-40s.) 1 lower. In Corporation stocks there is no quotable alteration. Miscellaneous business small, new transactions being restricted by attention to settlement.

RAILS fairly well together, and prices not much altered.—Higher: Consolidated,  $\frac{1}{2}$ ; Manchester and Liverpool District,  $\frac{1}{2}$ ; and National Provincial,  $\frac{1}{2}$ . Lower: Union of Manchester,  $\frac{1}{2}$ ; and Manchester and County,  $\frac{1}{2}$ .—INSURANCE.—Transactions few.—Higher: Sea,  $\frac{1}{2}$ ; Equitable Fire,  $\frac{1}{2}$ ; and Liverpool and Lancashire Fire,  $\frac{1}{2}$ .—Lower: Commercial Union,  $\frac{1}{2}$ ; Royal (Liverpool),  $\frac{1}{2}$ ; Liverpool and London and Globe,  $\frac{1}{2}$ ; Manchester Fire,  $\frac{1}{2}$ ; British and Foreign Marine,  $\frac{1}{2}$ ; and Maritime,  $\frac{1}{2}$ .

COAL, IRON, &c., and MINING.—Quite neglected, one sale of Cammells being all that is reported. Quotations very little altered. Cammells continue to improve, having risen  $\frac{1}{2}$ ; Patent Nut and Bolt,  $\frac{1}{2}$ ; and United States Rolling Stock, 1. Lower: Shipbridge A,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; Rio Tinto, 1; Telegraph Construction and Maintenance,  $\frac{1}{2}$ ; and Tharsis Sulphur, &c.,  $\frac{1}{2}$ .

COTTON SPINNING, &c., shares are quiet, but quotations on the whole very little if any worse.

TELEGRAPH lower all round, especially Anglos of all issues.—TELEPHONES moved in same direction. Lancashire and Cheshires 9d., and United  $\frac{1}{2}$  down.—MISCELLANEOUS.—Bryant and May and Bell and Black's show further advance. Gas Light and Coke A Ordinary also are 1 to 2 better. Hudson's Bays have collapsed, and at one time showed stronger, but are  $\frac{1}{2}$  down on balance.

RAILWAYS.—During the past week warlike preparations have depressed prices of English rails at a serious rate, and although to-day somewhat of a rally has occurred, no permanent strength can be expected till the Russian acquiescence in a definite form to retire from the menacing position they have taken up. The opinion obtains with not a few, and we share it, that hostilities will be averted, in which case purchase of English rails at present figures would, without doubt, prove a very profitable operation in the near future. In Canadian, Grand Trunk Preferences are again lower, traffic announced to-day tending to aggravate the situation and depress all classes. The backwardness is getting lighter on 1st and 2nd Preference, which will assist in bearing, but as prices are approaching the figures of 1877, 1878, and 1879, selling is getting hazardous. The traffic is: Main Line, 10,232; Chicago and Grand Trunk, 1,157; and Detroit and Milwaukee, 944, all decrease. Later prices are above the worst, and tone improved. Americans contradictory. New York Centrals, Illinois, and Pennsylvania are better, whilst the lower priced stocks have fallen slightly. Business herein is very limited. Mexican railways report a decrease of traffic of 26000, and after fluctuations, quote below last week's quotations.

## SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

**STIRLING.**—Mr. J. GRANT MACLEAN, stockbroker and ironbroker writes under date March 26:—During the past week the markets have been flat, owing to the unsettled state of political relations with Russia. Until this is arranged no improvement need be expected in trade or prices. The fortnightly settlement is now in progress, and transactions entered into are for new account, April 15.

In shares of coal, iron, and steel companies there is no special alteration to notice. Monklands lower at 4 $\frac{1}{2}$ , and there is some talk that this company will be given up. Bull's Iron are at 2s. 6d. to 3s. 6d.; Carlton Iron, 30s. to 40s.; and South Wales Colliery, A, 90s.

In shares of foreign copper concerns there has been more business doing. Arizonas declined to 3s., on the failure of their smelting agents holding a large stock of the company's copper, but as this has since been arranged the shares have recovered to about 13s. Tharsis have been sold from 5l. 3s. 6d. to 4l. 12s. 6d.; Corporation of South Australia are at 2s. to 3s.; Copiapo, 23s. 6d. to 35s.; and Yorke Peninsula (Ordinary), 1s.

In shares of home mines there has not been much business doing. Glasgow Caradons lower at 2s. 6d., although the returns from the mine show it is improving. Carn Brea are at 55s. to 60s.; Carn Camborne, 3s. to 5s.; Drakevales, 3s. to 5s.; Devon Friendship, 1s. 6d. to 2s. 6d.; Ecton, 20s. to 25s. 6d.; East Van, 5s. to 7s. 6d.; Frongoch, 5s. to 7s. 6d.; Great Laxey, 2 to 2 $\frac{1}{2}$ ; Gunnislake (Clitters), 5s. to 7s. 6d.; Holywell District Lead, 5s. to 10s.; Leadhills, 25s. to 25s.; Old Shepherds, 5s. to 6s.; Owen Vean, 10s. to 15s.; St. Just United, 70s.; South Caradon, 4s. to 5s.; Tamar, 2s. to 3s.; West Caradon, 1s. 3d.; Wheal Castle, 4s. 6d.; Wheal Crebor, 15s. to 20s.; and Wheal Unity, 3s. 6d.

In shares of gold and silver mines business is quiet. Montanas advanced to 3s. 3d. on the meeting passing off well. It appears their debt is now paid off, and the mine being worked at a profit. Kohinoors are also firmer at 4s. 6d. to 5s. 6d. Private advices point to this mine turning out a great success shortly. An increased number of stamps are being set to work. Kimberley North Block, Ouro Preto, and Scottish Colorado shares all offered. Alankone are at 5s. to 7s.; Almaden, 2s. to 3s.; Balkis, 2s. 9d. to 3s. 3d.; Denvers, 1s. 9d. to 2s.; Eschquer, 1s. 3d.; Gold Coast, 2s. to 3s.; Hoover Hill, 4s. to 5s.; Indian Consolidated, 2s. to 3s.; Lisbon-Berlyn, 5s. to 6s.; Mysore Reefs, 1s. 3d.; New Callao, 4s. to 5s.; New Chiles, 6s. to 6d.; Reforma, 7s. to 8s.; Schwab's Gully, 80s. to 91s.; Wassau, 10s. to 12s. 6d.; and West Callao, 2s. to 3s.

In shares of miscellaneous companies the principal feature is a decline in some oil shares. Lanark has declined to 33s. owing to more capital being required. The dividend on Nobel's Explosives is announced at 12 $\frac{1}{2}$  per cent., as against 17 $\frac{1}{2}$  per cent. last year. The shares improved to about 15 $\frac{1}{2}$ , but are now about 15 $\frac{1}{2}$ . Home Mines Trusts are 13s. to 14s. Monte's Metal shares offered.

**EDINBURGH.**—Messrs. THOS. MILLER and SONS, stock and share brokers, Princes-street, write, under date March 26:—The markets have been much depressed during the past week. Caledonian Rail-

way stock has fallen  $\frac{1}{2}$ , North British  $\frac{3}{4}$ , Edinburgh and Glasgow  $\frac{1}{2}$ , Great North of Scotland  $\frac{1}{2}$ . Canadians have been very weak. In Banks, Clydesdale have receded from 20 $\frac{1}{2}$  to 20, National from 30 $\frac{1}{2}$  to 30. Some business has been done in Union at previous quotation of 21. In Insurance shares, Caledonian have changed hands at 18 $\frac{1}{2}$ , a rise of 2s. 6d. North British and Mercantile have been done at 17 $\frac{1}{2}$ , without changing price. Scottish Union A have receded 2s. 6d. to 50s.; Scottish Accident have been offered at 35s. In Investment Company shares, Dundee Mortgage have advanced 1s. to 52s.; Mortgage of South Australia New shares, 6d. to 14s. 6d.; Scottish American Investment 6d. to 67s. 6d. Otago and Southland have lost 1s., and now stand at 39s., at which they are wanted. American Mortgage of Scotland are 6d. higher at 37s. 6d. In Land and Cattle Companies, Canada North West Land have receded 1s. 3d. to 38s. 6d.; New Zealand and Australian Land, 20s. to 7s. Swans have gained 1s. 9d. at 5l. 18s. Oil shares have again been pressed for sale. Broxburn have fallen 8s. 9d.; Holmes, 25s.; Pumpherson, 11s. 3d.; Young's 6s. 3d.; Westfield, 2s. 6d. West Lothian, after recovering to 7 $\frac{1}{2}$ , have receded again to 6 $\frac{1}{2}$ , being last Wednesday's price. Distillers' shares have risen 3s. 9d. Edinburgh Tramways have receded 5s. to 10 $\frac{1}{2}$ .

## SCOTCH PIG-IRON WARRANT MARKET.

Mr. W. WILSON (Glasgow, March 25) writes:—The warrant market was firm last week, and a moderate business done. Nothing more can be said regarding the trade than that it gives no indication yet of improvement. Shipments should have been showing better, now that we are at the end of March, but this department is particularly disappointing. In other departments a little more is doing, and certain of the shipbuilding yards have re-engaged a number of men. There is no change in the number of furnaces blowing: 1762 tons were put into store here last week, while 381 tons were taken out at Middlesbrough. Business was done during the past week at the following prompt cash prices:—

Thursday, March 19.	Friday, March 20.	Monday, March 23.
41/4, 41/3	41/3, 41/4, 41/3	41/2, 41/3
Tuesday, March 24.	Wednesday, March 25.	Thursday, March 26.
41/3, 41/4, 41/5, 41/6	41/5, 41/6, 41/7, 41/8, 41/9	41/7, 41/8, 41/9, 41/10
1885.	1884.	1883.
Price of Scotch Warrants, March 23	41/3	42/6
Furnaces in blast in Scotland do...	92	93
Iron in store at this date	591,226	594,322
Shipments of Scotch pig-iron for...	591,226	585,640
week ending March 21	7,147	11,575
Do, since beginning of year	93,839	117,310
Price of Middlesbrough No. 3, March 23	34/	37/3
Furnaces in blast Middlesbrough dist.	95	104
Middlesbrough Iron Imported at Grangemouth, week ending March 21	7,551	4,520
No. do. since beginning of year	96,992	68,400
		56,231
		72,456

## Law Intelligence.

HIGH COURT OF JUSTICE.  
CHANCERY DIVISION—March 21.  
(Before Vice-Chancellor BACON.)  
ASHBY V. DAY.

This case raised a question of considerable interest to the commercial world, and especially to bankers—whether a letter of guarantee given by two or more persons, and not expressing on the face of it that the signatories are to be deemed "severally" liable, becomes inoperative upon the death of one of them. Upon this question it appears that there has not hitherto been any reported decision. The action in the present case was brought by Messrs. Thomas Ashby and Co., bankers, of Staines, against Messrs. William Ansell Day and George Tate, former directors of the Anglo-Russian Iron and Tin-plate Company (Limited), now in liquidation. Mr. Day having also been the solicitor to the company, to recover 20000l., the amount of a guarantee alleged to have been given by the defendants and a Mr. Parry, since deceased, another director, and for other relief. The guarantee in question was given to the plaintiffs as security for the balance due to them from the company on their banking account. It was in the ordinary form of a banker's guarantee, and was dated December 31, 1879, and signed by Tate, Parry, and Lay. It stated that, in consideration of the plaintiffs giving credit to the company—"We, the undersigned, George Tate, Edward Parry, and William Ansell Day, do hereby guarantee to you the payment of the balance which may be or become due on the closing of the account from the said company to the extent of 20000l." &c. The other facts of the case sufficiently appear from the judgment. The trial of the action occupied the greater part of five days, and on the conclusion of the arguments on the 10th inst. his lordship reserved judgment.

Mr. Marten, Q.C., and Mr. Northmore Lawrence appeared for the plaintiffs; and Mr. Rigby, Q.C., Mr. J. Beaumont, and Mr. Harmsworth for the defendants.

The VICE-CHANCELLOR, in delivering judgment this morning, said:—The plaintiffs in this suit seek to recover from the defendants a sum of 20000l. and interest, by virtue of a guarantee given by them in December, 1879, for securing the debt to be contracted by a joint-stock company, and they ask in the alternative that the defendants may be held liable to pay to them the damages they have sustained by reason of representations alleged to have been made to them by the defendants in the course of the transactions which ensued upon their dealings with them. Before and in the year 1879 a joint-stock company had been established for the sale and manufacture of tin-plate under the title of the Anglo-Russian Iron and Tin-plate Company, of which a Mr. Parry, since deceased, and the two defendants were directors. In December in that year, the company being in want of capital for carrying on their business, an application was made to the plaintiffs, who were bankers, by Mr. Parry, for opening a banking account, in the course of which the plaintiffs should discount the bills of the company, and should permit the company to have an overdraft of 20000l.—that is, to draw for that amount beyond the amounts which should stand to the credit of the banking account. The plaintiffs were willing to accede to this, but stipulated that they should have a security for the account, to which Parry and the defendants agreed. The plaintiffs thereupon made such enquiry as they thought requisite respecting the company and the security proposed to them, and ascertained that the company had a manufactory at Hanfield, in Middlesex, a warehouse in Turnmill-street, and offices at Bridge-street, Blackfriars. They also learnt that Parry was one and the defendants were two others of the directors, and, their enquiries being satisfied, it was ultimately agreed that Parry and the defendants Day and Tate should give their personal guarantee for 20000l., and further and separately that a bond or debenture of the like amount by the company should be deposited with the plaintiffs for the like purpose. Accordingly a banking account was opened between the company and the plaintiffs. Cheques on the plaintiffs were drawn, and advances made by them. Bills drawn by the company on their customers were paid into the account and were discounted; a pass-book was furnished, and from time to time sent to and returned by the company, and all that took place was in the most usual and ordinary form as between banker and customer. The company's debenture for 20000l. was delivered to the plaintiffs, and a guarantee was signed by the defendants and Parry. That instrument was in the form common with bankers. (His lordship read the guarantee.) It appears to me that there can be no doubt as to the effect of this instrument, and one should have thought that there could be no ground of dispute about it. The defendants, however, have insisted that they signed it without having bestowed proper attention on its contents, and in the belief that they engaged only as collateral guarantors to make good what the debenture might be insufficient to satisfy non-realisation. For this contention I am of opinion there is no foundation. The instrument is plain and explicit in its terms. It was long enough in the hands of the persons signing it for them to understand its full purport. They were all men of business, and actively engaged in the conduct of an extensive commercial enterprise, and of the defendants one was an experienced lawyer, and the other a surgeon of advanced years. No mention is made in the guarantee of any other security, and if it were necessary it might be added that it would be wholly unreasonable to infer that the plaintiffs, who were to lend this money to enable the company to carry on its business, would be likely to do so if they had only in the first instance to look for re-

payment to the company and its assets. However, the guarantee being given and the debenture deposited, the account was opened and carried on in the common form until November, 1881, when the tin-plate undertaking came to an end, and the company was ordered to be wound-up, there appearing at that time a balance on the debit side of the account, together with outstanding bills, to the amount of upwards of 20000l. So far, if the facts that I have stated were alone to be considered, the case would be plain enough. But the defendants, upon being required to make good the loss the plaintiffs have sustained, have disputed the claim upon various grounds. First, they dispute their liability under the guarantee for the reasons I have adverted to, and which I think are untenable. They suggest that the plaintiffs employed Parry as their agent to procure the defendants' signature to the guarantee, for which suggestion there is neither evidence nor reason. They state further that the company for whom they signed the guarantee ceased to exist in or about September, 1880, and was then dissolved, that a new company was then formed, and that all the matters involved in the banking account subsequent to the dissolution of the old and the formation of the new company are without the scope of the guarantee, and impose no liability upon them. They further insist that such liability, if any, as they were under, by virtue of the guarantee, ceased upon the death of Parry in December, 1880, the engagement being a joint obligation of the three, and having come to an end when the obligors became only two in number. They further insist that by payments made in the account the amount which was due at Parry's death has been satisfied, and that therefore their remains no debt due to the plaintiffs, and that the plaintiffs, by having exchanged the debentures they originally held for debentures issued by what is called "the new company," have realised all that was at any time due to them. It is by means of these contentions that the case has become somewhat complicated, and has given occasion to a great consumption of time in the examination of witnesses, of documentary evidence, and in the argument arising out of the defence. The defendants have appeared as witnesses in their own behalf, and they both repeat that which their counsel have represented as being one of the main grounds of their defence—that in signing the guarantee they supposed and believed that they were merely giving a collateral security for the amount of the 20000l. debenture of the company. Upon this they are quite positive, although in some other respects their recollection does not serve them. The defendant Tate in particular, owing to illness which he has suffered, and by reason of his advanced age is quite unable to give the information required of him, or to contradict the statement of the plaintiffs. I do not find it necessary to repeat what I have said on this topic, except to add that neither of the defendants has said at any time before the present question arose that he ever communicated his view of the alleged limited nature of the guarantee to the plaintiffs, and, further, that it would be wholly unsafe and unreasonable to accept the present assertion of the defendants in contradiction of the plain, unambiguous terms of the written instrument deliberately signed by them, and relied on and acted upon by the plaintiffs. It appears now what is called a new company was formed in or about September, 1880; but it is equally clear upon the evidence that this fact was not communicated to the plaintiffs. The only alteration that was made in the name or title of the company with which the dealings commenced was the insertion of the word "manufacturing" before the word "company," and the only knowledge the plaintiffs had of such alteration was communicated to them by means of a printed circular in October, 1880, and upon the tenor of which it would seem to have been addressed to the customers of the company. It speaks only of the alteration of the name of the company. The circular is signed by the secretary of the company, and requests that future communications may be addressed to the company "under our altered style, the Anglo-Russian Iron and Tin-Plate Manufacturing Company (Limited)." Upon this intimation the word "manufacturing" was interlined in the heading of the page in the account-book of the plaintiffs, and on the cover of the pass-book; but at no time was any alteration made in the manner of keeping the account. On the contrary, for some time afterwards cheques were drawn and signed by the defendants, and filled up in the form of the engraved plate prepared and used by the original company at the commencement of the account, and the business of the account continued to be carried on in the original manner without a break of any kind, and certainly without any notice or intimation to the plaintiffs that there existed any other account than that which had been opened and was continued, and to which alone the guarantee had any application. The defendants' contention, that their liability under the guarantee, ceased upon the death of Parry, appears to me to be unsustainable. No doubt the guarantee of the three is in terms joint, and not joint and several. If upon the death of Parry the defendants had given notice to the plaintiffs that they declined to be answerable for any other amount than that which was due at Parry's death, or if any question had then arisen as to the amount of contribution for which Parry's estate was liable, that question might have required consideration and decision; but no such notice having been given, and no such question raised, the liability of the defendants remains in its original force, and has been so considered and acted upon by the defendants. For, after Parry's death, they not only drew cheques in the name of what is called "the old company," but the offices and the officers and the books and accounts of that company were continued in the same place and by the same persons. The defendant Day lived in the same building, acted in the same manner as he had always done, and had frequent, if not daily, communications with the manager of the company. It is in evidence that many communications passed between the plaintiffs and the defendants in the year 1881, but more frequently with Day, the general purport of which was that the plaintiffs complained of the manner in which the banking account had been kept and the large overdraft, and pressed for payment in reduction of the large balance due; and Day, representing that the company was doing a large business in which capital was required, asked forbearance from the plaintiffs; all which matters are so clearly proved by the examinations and by the correspondence that it is unnecessary to refer to them in further detail. Mr. Tate was not only unable from the failure of his memory to give any explicit answers to most of the questions put to him, but was also unable to deny the plain and positive statements of the plaintiffs as well as to admit it must be borne in mind that he was the Chairman as well as a director, and that during that whole time the account contained in the pass-book, which was in the hands and use of the defendant, as well as in the books of the plaintiffs, remained one continued account, not affected in any respect by the defendants, who were at once directors of the company and liable on their guarantee. I am not aware of any case in which it has been held that the death of one co-contractor wholly puts an end to the joint contract; nor has it ever been held that such a continuance of dealing by co-contractors as is here proved could have any such effect. On the contrary, it is a plain, well-established rule of law that "if a man by his words or conduct wilfully causes another to believe the existence of a certain state of things and induces him to act on that behalf so as to alter his own previous position, the former is concluded from averring against the latter a different state of things as existing at the same time." So said Chief Justice Lord Denman, in "Pickard v. Sears" (6 "Ad. and El." 469). Upon the whole evidence it appears to me (6 "Ad. and El." 469). Upon the whole evidence it appears to me that as well by force of the guarantee of the 31st of December, 1879, as by the whole tenor of their words and conduct, and especially by their concealment from the plaintiffs of the fact that any new company had been formed, the defendants cannot now be heard to say that the account which had been opened and continued, as I have stated, was in any degree altered or affected, or that they are not liable to pay to the plaintiffs the 20000l. which is due on the account, and which they had guaranteed. The suggestions of the defendants that the payments into the account after Parry's death should be taken in satisfaction of the debt then due hardly appears to deserve serious notice, having regard to what I have said as to the continuance of the one unbroken account and the manner in which the dealings were conducted. Nor is there any weight in the defendants' objection that the original debenture has been satisfied since credit has been given by the



plaintiffs in account for the full amount received by the plaintiffs on that head. That the plaintiffs have recovered a judgment against the company, hitherto fruitless, can be no answer to their present demand, which is clearly proved and not denied to amount to a larger sum than 2000*l.*, for which sum, together with interest at 4 per cent. from the date of the winding-up of the company in November, 1881, a direct judgment to be entered for the plaintiffs, together with the costs of this action.

#### THE ABSORPTION OF METALS IN SMELTING.

QUEEN'S BENCH DIVISION, March 23.

(Before Mr. Justice PEARSON.)

#### TOTTENHAM V. THE SWANSEA ZINC ORE COMPANY (LIMITED).

This was probably the first application of the kind that has ever been made to the Court. The plaintiffs were the second mortgagees of leasehold premises at which the defendants carried on their smelting operations. Their mortgage included the plant and stock-in-trade which were not included in the first mortgage, and on that ground they now claimed the right to take down certain furnaces for the purpose of extracting from the brickwork the gold and silver said to have been absorbed into the substance of the furnaces. The first mortgage was made to the trustees for debenture-holders; their mortgage included the buildings and machinery and a certain patent of the company but did not include the stock-in-trade. The second mortgage was dated July, 1883, and was made to secure a second set of debenture-holders. The company went into liquidation in September, 1883, and in November, 1884, the trustee of the first mortgage sold the leasehold premises subject to their mortgage including the furnaces. The liquidator of the company had been appointed receiver in the action. The summons now before the Court asked for an order on the liquidator in his capacity of receiver to recover the gold, silver, copper, and other metals absorbed into the linings of the furnaces of the company in the process of smelting, and so far as might be necessary for that purpose to remove the linings and deal with the same so as to extract the metals and to sell the same with the stock-in-trade and effects of the company, and pay the proceeds to the plaintiffs. There was an affidavit by Mr. Tottenham, one of the plaintiffs, a director of the company, that about the middle of the year 1883 the company had removed from four reverberatory furnaces at their works the interior portions thereof and sold part of the same and realised 4000*l.*, the remainder being smelted by the company with other ores, and that he verily believed that there was absorbed in the interior portions of the furnaces now remaining upon the premises a considerable quantity of gold and silver, deposited in the course of the ordinary working operations of the company amounting in value, in his estimation, to upwards of 10,000*l.*

Mr. COOKSON, Q.C., and Mr. INGLE-JOYCE for the second mortgagees, contended that according to the custom of the trade the precious metals absorbed into the furnaces were not fixtures that belonged either to a landlord or mortgagee of the buildings, but that they were included in their mortgage, and that subject to the obligation to restore the furnaces they had a right to extract the metals in any way they could.

Mr. LEVETT, for the liquidator, maintained that the metal in that condition was neither plant nor stock, that it was comprised in neither mortgage, and therefore belonged to the general creditors.

Mr. COZENS-HARDY, Q.C., and Mr. J. BEAUMONT, for the purchaser from the first mortgagees, contended that the metal, if it existed, was part of the building which they had bought under a valid power of sale properly exercised.

Mr. Justice PEARSON, after referring to the remarkable nature of the summons, said that the first mortgage comprised all the buildings of the company as they stood at the moment of their being taken possession of, and if the company had been minded to build their furnaces of pure gold they would have been subject to the first mortgage and belonged to the purchaser from the first mortgagees. He therefore dismissed the summons with cost.

#### JUDICIAL COMMITTEE OF THE PRIVY COUNCIL.

(Present—Sir Barnes PEACOCK, Sir Robert COLLIER, Sir Richard COUCH, and Sir Arthur HOBHOUSE.—March 25.)

#### MACDOUGALL V. PRENTICE.

This was an appeal from a judgment of the Court of Queen's Bench for Lower Canada, in the province of Quebec (Appeal side), of the 23rd of January, 1884, reversing a decision of the Superior Court for Lower Canada.

Mr. McLeod Fullerton and Mr. Cunynghame were counsel for the appellant; Mr. Bompas, Q.C., and Mr. Cromwell White for the respondent.

The appellant and the respondent were partners in business as brokers, including the sale of mineral properties and the formation of companies. The appellant brought an action in 1872 for an account of the partnership affairs and for the purpose of recovering from the respondent 80 shares in the Canada Lands Purchase Company, or the value of such shares, which he put at \$420,000 as one-half of the brokerage or commission earned by the firm in selling the property and corporate rights of the Montreal Mining Company. On the partnership accounts, apart from the shares in question the appellant had been found indebted to the respondent in the sum of \$16,188, and there was now no controversy upon that point. The appeal related only to the rights of the parties with regard to the shares. Mr. Justice Bélanger, sitting in the Superior Court, who heard the suit originally, ordered the respondent to pay to the appellant \$63,811, or to transfer 40 of the shares sued for. The Judge considered that by an agreement in March, 1881, the respondent had absolutely contracted to transfer 40 shares to the appellant or to make good their value, which the Court estimated at \$60,000 or, deducting the amount due from the appellant \$63,811 in all. The respondent appealed to the Court of Queen's Bench, who reversed the decree of Mr. Justice Bélanger, and directed that the shares held in trust should be divided between the appellant and the respondent in the proportion of one part to the former and three to the latter. The Court held that the appellant was entitled to claim his share of the \$60,000, the price of the 80 shares held by the respondent, and that such share, with interest, was more than compensated by the \$16,188, due upon the accounts by the appellant.

Their Lordships, who had taken time to consider their decision, now gave judgment, affirming the decision of the Court of Queen's Bench, and dismissing the appeal with costs.

**HYDRAULIC PRESS FOR COMPRESSING WOOD.**—The enormous advance which has taken place in the price of box-wood, which is largely used in the manufacture of loom shuttles, has directed attention to the possibility of procuring some substitute for this now very expensive material. It has been found that various kinds of timber can be compressed by steam to answer the purpose, and Sir Joseph Whitworth and Co., of Manchester, have just completed for Mr. Robert Pokes, of Burnley, a powerful hydraulic press, to be used in compressing timber for loom shuttles. This press consists of a strong cast-iron top and bottom with four steel columns, and steel cylinders with a large ram. In the centre of this ram is fitted a smaller ram with a rectangular head fitting into a die, which is placed on the top of the large ram. The timber is pressed in this die, and a pressure of 14 tons per square inch is applied. The pressure is then relieved, and the large ram descends. The top pressure-block, which fits the die, is then removed, and the small ram rises and pushes the timber out at the top of the die. The timber so treated is made very dense, uniform, and close-grained, and will take a high finish; and it is obvious that this is a process which might be applied with advantage in the substitution of comparatively cheap timber for the more expensive woods for a great number of purposes.

### Colonial Mining Notes.

New North Clunes pay a dividend of 5s. per share.

THE number of gold mining companies registered in 1883 was 171, the nominal capital of which was 2,262,293*l.*

RICH stone has been struck in the north drive of the Long Tunnel Mine, Walhalla, Gippsland. The reef is 4 ft. wide.

THE first sod of the Fingal Railway was turned on February 11, and the line is now being rapidly proceeded with.

SPLENDID rains have fallen in the Far North, ranging from 4½ to 10½ inches.

THE *Polynesian Gazette*, published at Levuka, Fiji, is advocating the annexation of Fiji to New Zealand. The Governor thinks it would be a mistake.

THE South Australia revenue returns for the six months ending December 31, 1884, give the total receipts as 982,087*l.*, being a net increase on the same period last year of 15,382*l.*

THE officers of the Mining Department have obtained particulars respecting the crushing of 1,027,826 tons in 1882, and 924,451 tons in 1883. In the former year the average was 9 dwts. 0.44 grs., in the latter 9 dwts. 12.82 grs.

THE Long Tunnel Company, Gippsland, Victoria, report month's yield (February 7) 2024 ozs. gold from 1924 tons of stone, and have declared a dividend of 30s. per share for the first week in February.

BUSINESS is active in the Ballarat Share Market. Band and Albion Consols have been dealt in largely at increasing rates. The dividends declared during the past month amounted to 27,731*l.* 10s.

THE opening of colonial tenders for the manufacture of 150,000 tons of steel rails was postponed to the 10th March. The lowest tender for the construction of the railway from Blayney to Cowra was from Mr. J. S. Robertson for 278,071*l.*

THE yield of gold from mines in the Ballarat district, 2079 ozs. 17 dwts.; from the Creswick district, 2507 ozs.; from the Sandhurst district, 6919 ozs. 1 dwts.; from other districts, 4961 ozs. 10 dwts. Total yield for the week from the returns sent in (February 7), 16,469 ozs. 10 dwts.

THE various Victorian gold mining districts are displaying great energy in development and future prospects of profitable mining are very encouraging. A healthy tone pervades the market, and as an instance of the importance of the mining interest the *Argus*, February 9, publishes the weekly reports of about 230 gold mines in active work.

A telegram from Merinder says that a good deal of prospecting has been going on at Silverton, New South Wales, since the recent rains. A good ore-bearing vein has been struck in the Silver Crest claim, adjoining the Orphan claim. The other returns are over 3000 ozs. In the North Eclipse and Ballarat claims, near Parnamoota, rich ore has been met with.

DIVIDENDS for the week (February 14) from ten Victoria gold mines was 12,244*l.* The Victorian yield of gold for 1884, calculated on the usual basis, shows an increase over that of 1883 of 43,957 ozs. In 1883 there was a falling off, after three years of high production; but gold mining is again in the ascendancy, and the outlook for this year is very hopeful.

IN accordance with a resolution passed by the House of Assembly last session experiments are being conducted on the banks of the Murray river, in the Hundred of Stuart, for the purpose of testing the practicability of the proposed scheme of irrigation by the waters of the river. The Government have under consideration a comprehensive scheme of water conservation throughout the colony.

OWING to the scarcity of employment caused by the discharge of miners from the copper mines in the Moonta and Wallaroo districts, the Government are requested to provide work for the unemployed near their homes. Efforts are being made to push on public works in the mining districts and elsewhere, so as to afford employment to those who have lost their occupation as the result of the depression of the copper mining industry.

AT least 17 shafts sunk in Victoria have attained depths exceeding 1000 ft. The deepest shaft in the colony is the Magdala, at Stawell, which is 2409 ft., nearly half a mile; others in the locality are 1940 ft., 1830 ft., 1815 ft., 1770 ft., 1565 ft., and 1326 ft. from surface; at Sandhurst there are shafts 1993 ft., 1778 ft., 1563 ft., 1490 ft., 1483 ft., and 1450 ft. deep respectively; at Maldon one 1220 ft.; and at Clunes one shaft 1210 ft., and another 1193 ft. deep.

THE following are the returns from the undermentioned mines during the four weeks ending Saturday, February 7:—New North Clunes Company, 309 ozs. 11 dwts. 12 grs.; New Yankee Company, 82 ozs. 1 dwt.; South Clunes Company, 405 ozs. 4 dwts. 12 grs.; Port Phillip Company, 455 ozs. 19 dwts. 12 grs.; Bute and Downs Company, 404 ozs. 4 dwts.; New Lothair Company, 40 ozs. 8 dwts.; other sources, 150 ozs.; making in all 1845 ozs. 8 dwts. 12 grs.

THE Victorian revenue returns for the quarter and year ending December 31 have been published. For the quarter the yield is 1,589,075*l.*, and the year 6,187,362*l.*, or an increase in the former case of 114,160*l.*, and in the latter 575,301*l.* In the Customs the increase amounts to 48,759*l.* A falling off is noticeable in the territorial revenue, the progress payments by selectors being less by 16,380*l.* In the railway revenue there was, in the six months ending with December 31, an increase of 86,343*l.*

THE Sandhurst district, as shown by dividends, holds the premier place, and Creswick comes next. In both these places mining is regarded by experts as being still in its infancy, and we are accordingly justified in looking forward with the most sanguine hopes of the future. With the satisfactory progress at the Berry Consols, the Berry No. 1, Hepburn Consols, Hepburn No. 1, Australasian Extended, Lord Harry, and the extensive prospecting now in progress in the quartz districts, the Ballarat field, with its surroundings, has a brighter outlook now than last year. The progress of mining in Sandhurst the same exports are given. The best yields were obtained in the second half of the year, and the closing month stood high above all others.

THE prospects of the Port Phillip Gold Mining Company are improving. For the month ending February 4 they crushed 1517 tons quartz, yielding 455 ozs. 19 dwts. 12 grs. gold, an average of about 6 dwts. per ton. The western lode between the Nos. 11 and 13 levels is looking better, two crushings giving respectively

6 dwts. 23 grs. and 5 dwts. 9 grs. per ton. The drive in the north end is in 50 ft., lode very wide, showing gold freely, and estimated to yield ½ oz. per ton if crushed separately. A large crushing from the Old Man lode, No. 8 level, averaged 4 dwts. 17 grs. per ton. This average pays well, the stone very wide and easy to work. Nothing further known respecting negotiations between the company and the proprietors of the land as to the payment of royalty.

#### JIGGING, AND ITS APPLICATION TO THE SAVING OF BLACK TIN.

In a recent number of the proceedings of the Mining Institute of Cornwall there appears a most instructive paper on this subject,\* from the pen of Mr. PHILIP ARGALL.

In the first part of the paper the growth of jigging and development of the most recent continuous systems are traced out. Taking the ordinary hand sieve as the primitive form, it is shown that from it are derived the brake machine, and Petherick's intermittent jigger. The idea of Petherick, improved upon, has led to the German plan of jigs, as also to those of Davies and other inventors in this country; the principle in all is the same, the differences are only due to mechanical details. Descriptions with figures of several machines (which are taken as types) are given. In one of these, designed by the author, a central piston works two sets of lateral sieves on which ores of the same or different sizes can be concentrated. This form of machine is compact and portable, its construction is simple, and it performs its work rapidly and efficiently.

The second part of the paper treats of the principles involved in the operation of jigging, and in it are given several important practical notes on the working of the process. From a careful examination of the conditions that affect the working of the jigs it is shown that in the treatment of a heterogeneous mixture of material, varying both in size and density, the stuff must be gradual (or classified according to size) before jigging. It, therefore, follows that sizing is one of the most important practical points to be attended to in the jigging of ores; and the more nearly the materials to be separated approach each other in density, the more carefully must this be attended to, and the greater the number of grades adopted. After some notes on the "ragging," or holding of the sieves, this part of the paper concludes with some practical considerations as to the motion of the piston stroke, and the speed best suited for different ores and grades.

The third part of the paper—to which the preceding portion serves as introductory—deals with the application of jigging to the dressing of stanniferous stuff. This proves to be the most interesting aspect of the subject, and considering the low ebb to which tin mining in Cornwall has fallen, it is not only an important question at the present time, but it is a proposition deserving the earnest deliberation of those mine managers who are desirous of curtailing the returning charges of tin, and of affording suitable dividends to the adventurers.

It is to be regretted that in this paper there are no statistics from which to form an opinion as to the relative duty and cost of jigs and buddles. The jigs at East Wheal Rose, it is stated, are each estimated to dress 9 cwt. of stuff per hour. The central piston jig dispatches 6 tons of stuff per hour; but to compare with these practical results there are no records of the capabilities of buddles. As to the relative cost of the two machines it is shown that whereas buddling costs about 1s. per ton of stuff treated, jigging similar stuff can be performed at from 2d. to 4d. per ton. In rapidity of action and efficiency of separation, with accurate sizing and careful removal of the slimes, jigs are a long way ahead of buddles, and furthermore, by careful manipulation and vigorous attention to the fulfilment of those conditions which regulate the efficient working of jigs, much finer material can be successfully treated in these machines than is generally supposed possible.

That jigging is eminently fitted for the treatment of Cornish tinstuff can hardly be questioned. In tin dressing there is no mystery, it is simply a mechanical process; the separation being effected by the action of water in motion on bodies varying in density and size. Tinstuff is either an aggregate of crystals of tinstone (stannic oxide), with quartz and other minerals, or it consists of a siliceous matrix (quartz or spar usually coloured by accessory minerals) through which the tin is disseminated in fine veins and minute crystals. The separation of these necessitates pulverisation to set the tin free, and the finer the stuff is reduced the higher is the percentage of tin liberated; but economy in working demands that only paystuff should be pulverised, and that in order to prevent loss in slimes the black tin should not be reduced to a finer state of division than is absolutely necessary.

Assuming that the size to which tinstuff is stamped on the Cornish dressing-floors has been ascertained to be practically the best, there is no reason why this stuff should not be at once jigged. The first operation necessary is the removal of the slimes; the stuff to be jigged should then be classified into two, three, four, or more sizes as might be found most desirable. In each jig there should be at least two compartments—in the first black tin, and black tin only would be saved; in the second the sulphide and quartz containing a payable proportion of tin could be taken down, the waste passing off over the tail of the jig. If dredge gear or a third compartment were attached poor stuff might be saved and returned to special stamps to be reduced to a finer grade. The ore (black tin) in the first hutch requires no further treatment; the stuff in the second might have run direct to the calciner, pulverised and subsequently jigged, buddled, framed, or otherwise treated as might be found most desirable. By adopting this or a modified process it is more than probable black tin could not only be returned at less cost, but the treatment would be more rapid and far more efficient, while the percentage of tin saved would be much higher than at present.

In the discussion that followed the reading of the paper, although several opinions were expressed, it appears to have been generally conceded that at least for certain purposes connected with tin dressing jigging was well adapted, and it was proposed that a trial should be made of the process; but although some time has elapsed since the paper was read, systematic jigging of tinstuff is unknown in Cornish mines. If the mining community were in favour of retrenchment and reform some of the leading mines should have given this or some other continuous system a trial before now. There is not only a great variety in the forms of jigs, but there are before the public several systems of dressing founded on different principles, each with their special advocates and advantages, yet lives there a Cornishman who would try any system but buddles and frames.

In the present precarious condition of mining in Cornwall it behoves one and all to be all at one on such a subject as this. Let the mines unite and determine on a practical scale if some improvement on the cumbersome, expensive, and wasteful process cannot be devised. Till this is accomplished tin mining can only with difficulty continue its languishing struggle for existence, which, as it is at present constituted, it is hardly fitted to survive.

\* "Continuous Jigging Machinery," by Philip Argall. Proceedings of the Mining Institute of Cornwall, Vol. I., page 337.



# METALLIC MINING IN THE KINGDOM OF SERBIA, ANCIENT AND MODERN—No. II.

BY J. E. TENISON WOODS AND GEORGE V. JAMESON.

Roman baths, with extensive aqueducts, remains of the Roman times, are constantly excavated. The aqueduct at Maidan Kuchaina is 25 centimetres (10 in.) in width, and about 600 yards long, and is constructed of burnt angular tiles, which were always placed two deep. This aqueduct was carried under the earth for 300 yards, and discharged itself into the bath-house, which was discovered during some excavations about nine to ten years ago. It does not appear that the Romans were acquainted with elliptical and round cross-cuts, as all the lower workings are cut square, and evidently only by hammer and chisel. At Maidan Kuchaina many practicable ancient drifts and adits have been opened and cleared out; they are always narrow, most irregular and shallow, and many have collapsed from withering and age. Their underground passages were low and winding, probably caused by their following the lodes in their sinuosities. The manner in which the miners proceeded to and from their work was by means of posts and struts, with very steep and deep steps. In some of the shafts it is probable ore tubs might have been used, but most of these square cuttings were only just big enough to admit of the barrel or tub passing free. One may presume that timbering or masonry were very seldom used by the Romans underground, as only rarely are any such traces found below the surface. Masonry is, however, observable in the subterranean part of the aqueduct at Maidan Kuchaina, and in this piece of ore are abundant, having been used as a building material. Slight remains of timbering are found in some of the adits and shafts; the wood was worked in a half-round form, held together by wooden trenels. This is exactly similar to the mine timbering of the middle ages, and especially resembles that found in the ancient German mines.

The form of the stopes is very irregular; caused by the shape of the veins, and their mode of working proves they were sufficiently rich to leave no deads behind. When the ancients had stoped from underneath in an upward direction nearly to the surface, they sometimes met with argentiferous and auriferous calamine, and other zinc ores. These they could not utilise, and invariably discontinued the working when they were met. One of the largest deposits which were worked out by the Romans in Maidan Kuchaina, is now called the Angelina Cave. It is about 70 ft. high, 48 ft. long, and 38 ft. broad; therefore, big enough to contain a large five or six storied warehouse. It is estimated to have yielded upwards of 700,000 lb. worth of precious metals. In two of these vast and ancient ore caves at Maidan Kuchaina, evidence of stoping (apparently systematic) exist, as stages and galleries had been worked from underneath upwards, apparently made to extract the ore, and the unexcavated spaces were supported by large baulks of timber—the platforms covered with stones, so that when one gallery had been cleared new baulks of timber were added to support the roof, and so on, till the caves were cleared of their mineral contents. It is possible, however, that these mining operations belonged to a later period than the earlier ages. Raising the ore to the surface was accomplished through shafts, and by means of primitive hand cranes, having four handles, worked with ropes, and sometimes small chains. These hand cranes were entirely destitute of iron, and were fitted with four horns, placed at one end. The round wood stem forming the barrel of the crane was placed under a small shed; and perfect remains of these cranes have been found in their original situations. In the shaft these hand cranes were placed every 6 or 7 metres from each other, and in places at the sides of the shafts polished streaks, caused by the friction of the ropes, are found in the solid rock of the shaft itself. To show the quantity of ore that must have been raised in this way, it may be mentioned that some of these furnaces have been worn 3 in. deep into the solid stone. Of ventilation and drainage appliances no remains have been found, though it is known that the Romans were acquainted with the bellows and certain hydraulic machines. It is apparent that the ancients, in sinking the shafts at Maidan Kuchaina, even up to the date of the Middle Ages, suffered from want of air; as one generally finds in the immediate neighbourhood of a shaft a second was always sunk, with cross openings between the two at regular distances. Thus it is evident that the upcast and down-cast shafts for ventilation were used at this early period. Though many of the appliances used by the Romans in their mines exist, and some notion of their immensity can be realised, it is still apparent that generally only small vestiges of great works have been handed down to the present generation. Through the many hundreds of years of natural decay, and the frequent and violent wars and changes of population, the greatest part of these practical records have disappeared, while the intentional destruction of works and mines by the Turks has contributed to this result.

At the time of the inundation of these countries by the Huns, the Austro-Goths, and Longobards, which took place about the middle of the sixth century, and which eruptions were repelled by the Emperor Justinian, a large number of the original inhabitants either emigrated or were destroyed, but later the Avars entered and overran the Byzantine Empire. In the year 638 A.D., a branch of the Slavonian race, called the Serbs, entered this land, and thus it acquired its present name of Serbia. From this period, and after the seventh century, this country was plunged in continual and chaotic wars. The Serbs against the Bulgarians, and against every branch of the Byzantine Empire. Such a political state must naturally have destroyed all mining undertakings. At the end of this long interregnum—i.e., in the first half of the 13th century, the earliest, but still very meagre, historical data as to the Serbian mining industries exist. Stephen I., King of Serbia, introduced at this time German miners into the country, more especially Saxons. He secured to them great freedom and many privileges. These immigrants founded on the southern side of the Krupanji mountains a mining colony called "Novo Brda." A mint for coining and issuing money was established there. The coined money (many samples of which exist) have on one side the crown of the king, on the reverse the words "Monita Novomontani," which, rendered in English, means "the money of the new mines." This colony was very strongly fortified, and was frequently stormed by the Turks, but the courageous miners defended the place heroically till the end of the year 1466, when they were conquered and transported to Constantinople. The mining town, with the entire buildings, were occupied by the Turks, and the works were carried on, but not directly, by themselves. They leased them at a very high mining royalty to Venetian merchants, who even at this time had considerable trade with Serbia, and they remained in the 14th century the lessees of this place. Later, in the 15th century, the Republic of Ragusa acquired the leases of the Serbian mines, at a rental at that time (taking into consideration the difference of the value of gold) at the enormous sum of 200,000 ducats (100,000 £), but equal to 600,000 £ at the present day. The Ragusians proceeded, by the aid of Italian miners, to re-open the Roman mines, especially those in the regions of Barbe, Parsanji, Stojenik, and in the mountain regions of Avala, Tapovatz, and Ljuta Strana, as also at Maidan Kuchaina. In these places they partially rebuilt the works, and it is be-

lieved re-occupied Krupanji, Rudnick, and probably also Maidanpek; the enormous masses of slags and debris which all the above-named places contain, is sure evidence of the great work they must have at one time been carried on at these localities. In the first six named places—Barbe, Parsanji, Stojenik, and mountains Avala, Tapovatz, and Ljuta Strana—the work was carried on, not alone for silver, gold, lead, and copper, but also for iron. The most flourishing era of the Serbian mines in the Middle Ages was just before the battle of Kossova, which led to the entire overthrow of the Serbian kingdom, and the invasion of this country by the Turks, in 1388. This victory was destructive to Serbian mining industries. In consequence of this invasion, and the complete subjection of Serbia by Sultan Murad, in the year 1439, mining was completely extinguished for a period, but subsequently the despot Brankowitz, a vassal prince, who allied himself with the Queen of Hungary, with the object of throwing off the Turkish yoke, partially reopened them after Hunyadi's victory over the Turks, in 1444. All the above-named mines, with the exception of Krupanji, were again worked, and gave, as is testified by contemporary historians, a yearly profit of 120,000 ducats, equal in modern money, at that period, to 300,000 £. All these facts prove the vast importance of this industry in Serbia in former ages, and what an important source of wealth it was for that State.

Through the invasion of Mohammed II. into Serbia in 1459, and the conversion of the Serbian Kingdom into a down-trodden Turkish province, the great metallurgical industry of the country—which alone in the Middle Ages had flourished for 200 years—received its death-blow. Traditions and other evidences respecting mining enterprise from ancient times disappear completely from this period, and remained unknown and unrecorded for three and a-half centuries. The Peace of Poscharevatz, which was concluded after the wars of Prince Eugene in 1718, by which Serbia was handed over, as far as its southern limits on the River Timok, to Austria, gave another impetus to the mining industries of the country. The Austrian Government reorganised the occupied province, and though immigration increased the partly annihilated population, commissioners were sent to report upon the ancient mines which lay nearest the Danube, and, as a result, several of these were put in working order, especially Maidanpek and Maidan Kuchaina, which are accounted now amongst the largest mineral undertakings in the country. In Maidanpek 26 copper-smelting furnaces were erected, and these yielded in the best years 500 tons of copper. About 7 miles to the south-east of Maidanpek lay the mines of Rudna Glava, and from this place during the Austrian occupation, large quantities of copper ore were extracted. The magnetic iron ores, which here, as in Maidanpek, exist in large quantities, were thrown aside as useless. In Maidan Kuchaina the works were recommenced, and, one sees from the remains of buildings, were regularly worked. The first traces of underground work by the agency of powder, date, in Maidan Kuchaina from this period, but it appears that the results here were at this time not great, and the trials after gold dust and nuggets in the "Gloschaner Valley," near Neresniza (celebrated in the Roman times) led to small results. The archives of the Imperial Austrian Mining Department of this period contain many documents relative to the mining work undertaken by the Austrians. In these documents mention is often made of Maidanpek, and frequent allusions are made to Turkish shafts and adits, which one can assume are some insufficient evidence that the Turks had worked this place before the Austrian revival. The Koran forbids the Mohammedans to dig for treasures, therefore mining was a forbidden industry to them; nevertheless, it is certain that the Turks, after the retreat of the Austrians from Serbia, in the year 1738, for a period extending over many years, allowed Maidanpek to be worked by foreign miners. It is well known that the Mohammedans, but more especially the Moors, from early ages of their presence in Europe, have carried on iron industries, and used the products for the manufacture of steel swords and daggers, which are so celebrated to this day. But then iron did not belong to the noble metals in their view, and was a necessary material for carrying on their principle of propaganda by the sword. One can observe from the vestiges of the old mines and metallurgical works, that in many places strikingly different working periods can be distinguished, as well as great irregularity in the results of their manipulations. This marks the different periods at which the works were carried on, and the advance in technical science of each successive period (stage). This is also noticeable at Maidanpek. After the Peace of Belgrade in 1738, a long term, extending over nearly a century, was occupied by wars and revolutions against the Turks, with ever changing fortune; and during this time, and under the subsequent Government of Prince Milosch and his eldest son, the mining industry was absolutely neglected and forgotten. In the year 1842, when Alexander Karajewitch was elected Prince of Serbia, the Government first paid some attention to this subject. Competent mining experts were invited to the country with a view of examining the old mines, and for the purpose of giving advice as to their being resumed.

In the year 1849, in consequence of the reports of these experts, Maidan Kuchaina and Maidanpek were again worked on a small scale, but the working period only lasted about 10 years, and was not important, for instead of the Government finding a new source of income, they sank a large sum of money through want of knowledge and bad administration. In the year 1859, the State opened up the coal mines at Dobra, on the Danube, and five years afterwards was able to raise 10,000 tons of coal yearly; this was found to be of the best quality, and was used for steam and smelting work. In the year 1866, a mining code was issued in the Serbian and French languages, its provisions being mostly taken from the Austro-Hungarian code. It must here be mentioned that in Serbia, there is one mineral which the Government absolutely reserves the right of working itself—that is, salt, for the discovery of which a premium has been and is now offered of 40,000 £. Before the signing of the Berlin Treaty in 1878, and the subsequent commercial treaties which have since been made by the now independent Serbian kingdom, foreign nations could not acquire mining properties in Serbia. This, as far as the English and some other nations are concerned, has been done away with, and persons belonging to nationalities with whom treaties have been made, have now equal rights with the natives of the country. In this land there is a scarcity of disposable capital for mining industries, and the Government, with great wisdom, only work a few of these undertakings to supply the necessary lead required for ammunition purposes. They leave the development of mineral industries to private enterprise, retaining for themselves only a small royalty from the net profits accruing to the mining adventures.

In the year 1860 the copper mines of Maidanpek were re-opened by a French company, and the gold and silver mines of Maidan Kuchaina were let, together with large coal fields, to private individuals. Both these Government properties, however, passed into the hands of English capitalists, who are working them with satisfactory results up to the present time. In the same year the coal mines of Senji, near Chupria, in the Valley of the Morava, were opened, and since that period have principally supplied the Royal Cannon Foundry and Arsenal at Kraguevatz with fuel. At a later period, and especially during the last three years, extensive coal fields have been discovered near Alexinatz; on the River Timok, near Zaitchar, at Sikole, near Negotin;

but the largest, though at present very slightly developed, coal fields, are those existing at Mustapitch, near the shipping port of Gradistje, on the Danube. In Western Serbia, at Pochutee, in the Valley of the Jablenitz, several extensive seams of coal have quite recently been discovered. One of the principal copper districts in Serbia exists at Wragochanitz, not far from the town of Waljewe. These have been experimentally opened some years ago, and on the completion of the system of railway communication, will be again resumed. Antimony ores in large quantities are also found in the same district. At Kostolatz, close to the Danube, large beds of brown coal are being worked on a great scale, and at several other points in Serbia, notably at Mollnitz, in the Maidan Kuchaina Territory great deposits of compact brown coal of first class quality are found, though they are not at present worked.

Free gold washings, dating from the time of the Romans, in addition to the combined gold, are known to have existed in several parts of the country. On the River Pek, in the neighbourhood of Neresniza, great "dooos" of partially washed sand, evidently of a very ancient period, cover a considerable area of land; gold quartz exists in the same neighbourhood, producing at times from 3 to 9 ozs. to the ton, but these do not appear to have been touched by the ancients. Until within the last few years the Bulgarian peasants and gipsies were in the habit of visiting this district in the spring, after the melting of the snow, and panning out the gold. This, has, however, now been put a stop to by the authorities. The gold from these sands is in very fine powder, and is occasionally mixed with a few grains of platina, as well as corundum and ruby sand, similar to the alluvial washings in the Ballarat district of Australia, but the quantity now obtainable is small. At Slatina, however, in Southern Serbia, in the Province of Zaitchar, and at inconsiderable distances from the River Timok, extensive beds of ferruginous gravel cover the mountain slopes. This gravel contains large quantities of rough gold nuggets, stained by and mixed with iron oxide, exactly similar to the gold deposits in the Transvaal. No extensive operations have been undertaken at this place, but after heavy rains nuggets of considerable size are collected by the peasants, and sold to the trading jewellers and dealers in Negotin and Belgrade. In the light of recent experience of systematic gold working of the exactly analogous gold fields in South Africa, leads us to believe that this district will become of great importance in the future. Where the heavy rains have washed ravines through the alluvial gravel, large numbers of gold quartz veins are discovered in the gneiss rock underneath. These have not been up to the present time explored. Water in this district is abundant, and coal can be obtained from the Sikola coal fields at hand, at about 8s. per ton, while in the Transvaal coal costs from 20s. to 40s. per ton. Much attention having been attracted to the Transvaal of late makes us believe that, with the exceptionable advantages both as to transport, cost of fuel, and water-power, that this deposit will shortly become of vast importance. Various ores and combinations of quicksilver and cinnabar have been recently discovered in Northern and Western Serbia, but further development must alone prove their importance; but the aspect of the veins is in the highest degree encouraging as far as trial works have been at present undertaken. At Majurica, near Vranja, in the territory recently ceded to Serbia, there have been for years several small iron furnaces in which the pure and rich magnetic iron ores are worked up by hand, and over 200 tons of fine malleable iron is yearly manufactured here.

At Rudna Glava and in the Poreski Reka large deposits of magnetic iron ore exist, and it is in contemplation at the first named place to commence iron smelting immediately. The carbonate iron ores belonging to the coal measures are everywhere to be found in connection with the coal seams, and hematite brown and red ironstone are common. These, owing to the abundance of fuel, will lead to the development of an iron industry in the future, which will have a considerable influence on the market of that material in Central and Eastern Europe. Lead is very abundant and widely distributed, and is mostly very rich in gold and silver; a large quantity is smelted yearly at Krupanji for the necessities of the Government, and other lead smelting works on a very large scale are at present in course of erection at Barbe and Stojenik; these latter it is intended to carry on on a large scale as soon as the International Railway, which passes close to the property, is completed. The vast and ancient forests existing in the country have been preserved by the Government as reserve fuel for the metallurgical works, but since the discovery of the extensive coal fields this precaution is no longer necessary, and the timber will probably now form an industrial article of commerce to the country. In the year 1876 the Turko-Serbian war broke out, and mining industries came to a standstill, and may be said only to have been partially resumed during the last 18 months.

## Labour Notes.

THE happy settlement of the dispute between Messrs. Harland and Wolff, Belfast, and their riveters, which was come to during the past week, has afforded the greatest satisfaction to all. Squad after squad of the riveters, accompanied by the necessary number of assistants and labourers, have gone back to work during the closing days of the week, and it is expected that this (Monday) morning all the men who were locked out, and all the others who, as the result of that, were thrown idle, will go back at their work in the extensive shipbuilding yard on the Queen's island. On Saturday another distribution of money to the labourers who were thrown idle in consequence of the lock-out took place in Belfast. There were 300 men still on the books, and as the funds were low all that could be handed over to each was 3s. 3d. Many of these labourers have been in a very distressed condition in consequence of their being deprived of work, but it is expected that during the present week they will all be busy. It is expected that during the Royal visit to Belfast Messrs. Harland and Wolff's yard will be visited by the Prince and Princess of Wales.

THERE is a little uncertainty as to how the Lanarkshire miners will take the reduction of 6d., which came into force on Monday. The engine-keepers and other oncost men are holding meetings, with the view to resistance, and are seeking to induce the miners to join them. Being, however, completely without organisation, and owing to the scarcity of work for several months, low in funds, they are not likely to be easily stirred out of their quiescence. Many are, indeed, not a little afraid that there may yet be a further reduction, and wages have not been so low since 1878-79, after the City of Glasgow Bank collapse.

THE workmen employed by the Carron Company are, for the present, to work only five days a week, stopping work on Fridays at mid-day. This has been rendered necessary by the continued depression in the iron trade.

THE puddlers and millmen employed by Messrs. William Cooke and Co., Sheffield, on Monday sent a deputation to the manager to intimate to him a decision which is without parallel in the iron trade. The deputation stated they were well aware of the difficulties under which the company had laboured in consequence of the stagnation in the iron trade, and as their wages could not be reduced, owing to their being governed by the South Staffordshire Board of Conciliation, they had decided at a meeting that it was their duty to help their employers to tide over the period of adversity. They had, therefore, agreed to work a week for nothing, and expressed a hope that their offer would not be rejected.



# ARGENTIFEROUS GALENETIC-BLENDE AT OVOCA, IRELAND.\*

BY C. R. C. TICHBORNE, LL.D., F.C.S., ETC.

I am strongly of opinion that we should never lose an opportunity of bringing before the scientific public any natural product of this country which is likely to become of commercial value. The general uncertainty which appertains to all mining operations appears aggravated in Ireland, where it almost seems as if we hung upon the fringe of extensive mineral deposits. The want of smelting facilities adds greatly to our difficulties. In the year 1875 I had the honour of placing before this society (Journal of the Royal Geological Society of Ireland, vol. iv., part 4) a specimen of a rich magnetite found in Wicklow, which at that time was unknown to the Geological Survey. The veins of this ore could be traced for some two miles or more. Consignments of the magnetite were sent to Staffordshire to be smelted, and the most flattering account of the quality of the iron obtained therefrom was returned; yet I believe this ore lies *perdu*. I wish, on the present occasion, to bring before the society a description of another ore of even more importance. Of this ore very little is known, and I intend to offer some speculations upon its general character. I believe that the lode may be typical of many ores, which will be found disseminated in lead mines, but of these there is no record except a short reference in the Mineral Statistics (Mineral Statistics of the United Kingdom of Great Britain and Ireland for the year 1882, pp. 88 and 94) for the year 1882, and also a reference to which my attention has been drawn within the last week, and subsequent to my analysis and report upon this mineral, viz.:—a paragraph in a paper entitled, "Notes on the Ancient and Recent Mining Operations in the East Oveca District," by P. H. Argall (Scientific Proceedings, R. D. S., vol. iii., N. S., p. 225). The mineral is known as "Bluestone," and locally in Wicklow as "Kilmacooite," from the district called Kilmacoo. It is so called in Mr. Argall's paper. The mineral seemed to have been well known to Mr. G. H. Kinnahan, whose intimate knowledge of the mineralogy of county Wicklow induced me to make enquiries of him. He gives as localities—the lode of the Magpie Mine and the Connary Mine, both in East Oveca, with the Mona Mine in Anglesey. It is called bluestone by the mining inspectors (Mineral Statistics of the United Kingdom of Great Britain and Ireland for the year 1882, p. 5), and it seems that about 12,400 tons of this or similar ore are raised in the Principality during the year. The ore is a hard, steel-grey coloured mineral, having something of the appearance of sulphide of antimony. If we except the colour, however, it does not resemble that mineral in any respect, for the structure is that of a fine-grained saccharoid mass. The ore is extremely hard, and it is broken with difficulty. In fact, the rock has to be quarried by blasting. The pieces I have seen are very uniform in character, but are occasionally interspersed with crystals of pyrites and a hard, black, siliceous rock. A very slight examination will suffice to determine the fact that this mineral is a natural lode, and is not the result of an ancient working. This latter theory was once upon a time promulgated. A piece weighed in the air 34.942 grammes; when weighed in water it gave 27.5655 grammes as the weight, so that the mineral has a specific gravity of 4.736. It will be observed that this gravity is somewhat intermediate between galena and blende. It is harder than either of those minerals. The ore, as found in Oveca, seems from the description given of the Welsh mineral, very much of the same character. But I have never seen a specimen from the Mona Mine. As will be perceived further on, however, it differs in general composition, it is much richer in silver than one of the varieties found in Wales. To quote from the Mineral Statistics, we are told that—"Bluestone is an ore of zinc; average analysis—zinc, 32.15 per cent.; lead, 11.6, and 10½ ozs. of silver per ton, with a small percentage of iron and copper." But at page 88 in the same book we are informed that from the Mona Mine, in Wales, they extract 5.535 ozs. from 614 tons, and that at the Morfa Du Mine 5.082 ozs. from 726 tons, which represents respectively 10½ and 6.9 ozs. per ton. The following is the analysis of the argentiferous galenetic blende, so-called bluestone, as found at the Connary Mine, East Wicklow:—

Silver (equal to 8.6 ozs. per ton, nearly 8 ozs. troy) .....	0.024
Zinc .....	25.27
Lead .....	25.18
Iron .....	5.51
Manganese .....	trace
Antimony .....	0.21
Arsenic .....	0.08
Copper .....	2.50
Aluminium .....	0.60
Magnesium, with traces of calcium .....	0.02
Sulphur .....	23.71
Silica, &c. ....	16.896
	100.000

This mineral may, therefore, be said to consist of—  
Sulphide of zinc .....

Sulphide of lead .....

Sulphide of silver .....

and contains variable quantities of pyrites, which in this particular specimen amounts to 10 per cent. The sulphide would represent nearly 22 per cent. of the sulphur found. It was examined for the rarer metals by the spectroscope, but no indication of those elements could be got. Gold was present in very small quantities. It was not estimated. Mr. A. Ryder, of the Oveca Mining Company, has kindly given me the following information upon the subject of the lode of the ore:—The bluestone commences immediately to the east of a fault. It is here very rich in sulphur, and consequently of little value. We have driven on it for about 120 fms. east, and have found that it increases in thickness of lode—and value as we go east. It also increases in value as we go deeper. It is the most lustrous ore I know, growing in one place from 4 inches thick, up to 3 feet 6 inches in a distance of 4 fathoms. I calculate that there are about 1000 tons in sight. The bluestone seems to be surrounded by coal, with veins of bluestone on the north, and on the south side blue slate and white micaceous schist, and deeper down comes iron pyrites. Of course, from a commercial point of view, the amount of silver found in this ore is the most important item of the analysis. Our analysis gives rather different results from those obtained in the Welsh mines, but they do not agree at all with the analyses given in the notes to Mr. Argall's paper. Five analyses are given, and silver is only mentioned in three out of the five, which gives respectively, 5, 7, and 6 ozs. per ton. (Since writing samples of the ore have been assayed in London, giving as high as 9 ozs. of silver per ton, and also containing 1 dwt. of gold.) From reasons which we shall shortly state, we think it probable that most of the samples must have been not only poor in silver, but very indefinite in the composition of the bluestone. It may be interesting to compare this argentiferous ore with some others which are well-known and

worked for their silver. The following figures are taken from Dana's Mineralogy, 5th edition:—

Argentiferous galena, Hartz .....	0.03 to .05 per cent.
English galena .....	0.02 to .06 "
Lead Hills .....	0.03 to .06 "
American ores which are worked, run as low as .....	0.01
Argentiferous ore from Oveca .....	0.024

The last-named Oveca ore compares very favourably with the above list, which includes some of our great sources of silver. If we examine this mineral with the naked eye, particles of pyrites may be seen scattered through the mass in an accidental and rather erratic manner. The remainder of the mineral is, however, remarkably homogeneous, and will bear examination under the microscope by reflected light with considerable impunity. The silver exists as sulphide, because dilute sulphuric acid does not dissolve any trace of that metal from the mineral. The actual composition of this ore brings us to the consideration of two points—(1) How far we should be justified in considering it as a distinct mineralogical specimen; (2) The construction of the names it has received. I may as well state at once that, as regards the last point, I have a strong objection to the naming of minerals after places, particularly when named after small and unknown localities. Thus Dana has named a fine-grained mixture of galena and blende Huasolite, from the province of Huasco, where it was found. Even here, I am of opinion that such terms are not desirable, if we wish to inculcate the idea that they are distinct species. A province, however, is generally well known, and it is quite different to Kilmacoo—a local name, not even to be found in any published gazetteer or postal directory. The objection would be obvious, because until we got "Kilmacooite" recognised in the text-books upon mineralogy, the man of science would be at a loss to know what that name meant, or even to trace its connections. There is also as great an objection to the term "Bluestone," the name used by the miners in Wales. The mineral is of a steel-grey colour, not blue; and, besides, this term is applied to a well-known chemical substance. I therefore prefer to call it argentiferous galenetic blende. I view the mineral as an intimate mixture of fine crystals of galena and blende, which, although they form a fine-grained saccharoid mass, apparently homogeneous to the eye, I have no hesitation in saying is composed of a mechanical mixture of microscopic crystals of two minerals. When treated with dilute nitric acid, the blende seems to be attacked first, but I do not attach much importance to this fact. If, however, we powder some of the mineral and examine it under the microscope with an inch object-glass, and strongly illuminate it with transmitted light alone, we find that about two-thirds of the particles transmit light, while the others do not. Now, galena owes its strong metallic lustre to its great opacity, and I think we are justified in pronouncing that these last particles are galena, and that those which transmit light are blende. The finest film of galena that can be got by acting upon an alkaline solution of lead oxide with thio-urea does not transmit light, whilst blende obtained artificially by a similar method is quite transparent. I do not think the analysis in Mr. Argall's paper could represent very pure specimens of the minerals. It will be observed that the samples procured by me are very uniform in character, except a few isolated crystals of pyrites, which can be perceived with the eye. In the five analyses given in Mr. Argall's paper there is a great discrepancy of composition, thus:—The lead varies from 7½ to 26 per cent.; the zinc from 8 to 49 per cent., and, where estimated, the silver respectively 4, 6, and 7½ ozs. This great variation in composition is easily understood when we note the iron, for we find that one sample, marked "E," must have contained about 23 per cent of pyrites; sample "A" 32 per cent., and sample "C" more than half pyrites. The samples examined by me contained more silver than the highest estimation given in these analyses. In concluding this short notice of this ore, I am tempted to quote from my report upon the Dublin International Exhibition of 1865. (Chemical News, July 21, 1865; Report upon the Dublin Exhibition, and Official Report, by C. R. Tichborne.) In giving the statistics of the raising of silver in Ireland, I stated that this country was a larger supplier of the valuable metal, but I am afraid to make the calculation now which I did at that period. I then stated that Ireland produced 14,000 ozs. of silver per annum, or 2.4 per cent. of the whole silver raised in the world, and its value might be estimated at 38500. per annum, exclusive of the lead raised at the same time. If 1000 tons of this argentiferous ore can be sighted, which represents of silver alone 8000 ozs., how lamentable it seems that this valuable industrial resource should remain unworked—mere earth which might be transmuted into bone and sinew.

## Review.

THE PATENT LAWS OF THE WORLD,\* submitted to us for review, seems to carry out very effectively the object of the authors, Messrs. ALFRED and EDWARD CARPMAEL. They say that nothing but necessity drove them to undertake the task, and whilst not regretting that they were thus compelled by the pressing want of such a book, with which feeling we are assured all those who have to do with foreign as well as British patents will agree, we can understand their pleasure at having reached the end of their labours. The work involved in so complete and carefully arranged a compendium of the patent laws of all nations must have been enormous, and it is evident from even a cursory perusal of it that there has been no shirking. As far as our limited knowledge of the languages of the many countries whose patent laws are epitomised the translations are good; the effort to fill up the gaps in the text of colonial laws and translations of foreign laws has met with a success which the assiduity employed fully deserves, and the book should be of much practical value to the many who are consulted on questions of detail as to foreign and colonial patent laws, upon which mere abstracts of such laws, though very valuable in their way to the general public, do not enable them to advise their clients. One of the best parts, and to our mind a most important part, is the index, which is fully and carefully made. The laws epitomised range from those of Great Britain and the other European countries to those of Venezuela, St. Helena, Guatemala, and other comparatively unimportant places. Though from its nature, special and technical, the completeness and finish of this useful volume should ensure its ready acceptance among those who require a handy book of reference. If we were inclined to be hypercritical we might say that it is almost too comprehensive, and to suggest that some labour might have been saved by remembering that to the patent laws as well as to other things the maxim applies—*de minimis lex non curat*, but the fault if any is on the right side.

\* The Patent Laws of the World, by A. and E. Carpmael. London: William Clowes and Sons.

We have received from Messrs. Cassell and Company (Limited) Part 100 of their Illustrated Practical Dictionary of Mechanics, by E. H. Knight.

# THE NORTH TRESKERBY TIN AND COPPER MINES (LIMITED).

The directors in drawing attention of investors to the enclosed prospectus desire to set out the special features which distinguish it from ordinary mining investments.

1. Instead of the mines having to be opened out to find the ore and ascertain its value, all the risk of that has been taken by the vendors during the last three and a half years at their own expense.
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4. Instead of the capital being a huge sum, such as is ordinarily placed upon even speculative properties, the entire capital of this company is limited to £25,000, of which £25,000 is working capital, which is ample for all purposes.
5. Instead of the dividends being at the ordinary rate, the mining managers estimate a minimum of 30 per cent. from the first year of full working.

In a word, unlike other mines where all the risks are put upon the investors, in this case the whole of the risk has been taken by the vendors before placing the prospectus before the public.

The directors for the above reasons recommend to their friends and the public the shares as a solid, home, and, as they believe, permanent investment.

12, Fenchurch-street, London, 25th March, 1885.

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The mining managers and engineers of the company estimate when in full working order the first year's income at £22,159, equal to over 34 per cent. on the entire capital.

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Baron ALBERT GRANT, Chairman (Messrs. Grant and Co.), Founders-court, O.

MICHAEL ALFRED REED, Esq. (Messrs. M. A. Reed and Co.), 12, Fenchurch-street, E.C.

The Hon. DAVID ERSKINE, 47, Grafton-road, Kensington.

ALFRED CONDER, Esq., Crown-court, Old Broad-street, E.C.

WALTER HOWELL, Esq., The Down, Bexhill-on-Sea.

BANKERS.

The CAPITAL AND COUNTIES BANK (Limited), Threadneedle-street, E.C.

Messrs. WILLIAMS, WILLIAMS, and GRILLS, Truro and Redruth, Cornwall.

SOLICITORS.

Messrs. GEORGE DAVIS, SON, and CO., 80, Coleman-street, F.C., London.

AUDITORS.

Messrs. J. F. LOVERING and CO., 77, Gresham-street, E.C., London.

MINING MANAGERS—Messrs. PRYOR and SON, Redruth, Cornwall.

ENGINEER—Mr. JOHN TONKIN, M.E.

SECRETARY—Mr. M. EDWIN REED.

OFFICES—12, FENCHURCH STREET, E.C., LONDON.

The directors of the North Treskerby Tin and Copper Mines (Limited) are prepared to receive applications for 45,000 shares of £1 each, being the share capital of the company for subscription after 20,000 shares taken by the vendor in part payment for the properties.

## THE NORTH TRESKERBY TIN AND COPPER MINES (LIMITED).

PROSPECTUS.

The North Treskerby Mines are well known by the results attained in developing these properties under the management of Messrs. Pryor and Son, the company's mining managers, over the last 3½ years. From the reports it will be seen that the mines only want the erection of the necessary stamps and dressing appliances now in course of delivery to treat the large amount of tin ore raised and in a slight ready for extraction.

The estimated income the first year, when in full working order, from tin alone, is, as per detailed report of Messrs. Pryor and Sons and Mr. John Tonkin, M.E., the company's managers and engineer, £22,159, equal to over 34 per cent. dividend on the entire capital, without reckoning the profits from working the copper lodes.

The detailed report of the above estimate is appended to the prospectus.

The copper portion of these valuable properties are expected to yield a very large quantity of rich ore. See report appended to the prospectus.

The machinery erected is of first-class character, and includes rock drills and air compressor, by Cranston and Son, of Newcastle-on-Tyne, steam engines of great power, and other modern requisites for working the mines on a large scale and economically.

From the forward state of the works the amount of tinstone in the company's warehouse at the mine, and the amount of ore in sight ready for extraction, the directors expect to be able to declare a dividend within six months from the erection of the dressing machinery; and, judging by the prospects stated by the mining experts, they look for a lasting, rich, and prosperous mine.

It is well known no investment is so remunerative as a successful Cornish tin mine.

Dolcoath and many other mines show what is possible in Cornwall.

Dolcoath Tin Mine, the share on which £10 14s. 10d. per share is paid, are quoted £69 per share.

East Pool Tin Mine, the shares on which 3s. 9d. per share is paid, are quoted £41 per share.

Wheal Eliza Tin Mine has made large fortunes for its owners, who work it privately.

From the fact that North Treskerby is a good proved mine, a home mining investment, and a concern ready for working, the directors recommend the shares without the slightest hesitation.

The mines have been inspected and reported upon by the following well-known mining authorities:—

Messrs. Pryor and Sons, M.E., Redruth;

Capt. John Nichols, M.E., Camborne;

Mr. Robert Symons, C.E., Truro;

Capt. John Tonkin, M.E. and C.E., Camborne;

Capt. Joseph Pryor, M.E., F.G.S., 8-upt. Panama Gold Mines.

For reports of inconceivable interest to herein see detailed prospectus.

The directors purposely refrain from commenting at length on this very valuable property, preferring to refer intending investors to the extracts of the reports of several mining authorities of well-known ability, who, from practical experience, are far better able than the directors themselves to express a correct and reliable opinion as to the value, present and prospective, of the company's property, and they invite application for shares in the fullest confidence that the result of the company's working will enable them, according to Messrs. Pryor and Sons and Mr. John Tonkin's estimate, to pay dividends of over 30 per cent. per annum, and that, too, within a period of six months from the time when the works are in full operation.

Such a consensus of mining experience thus certifying to the present value and highly favourable future prospects of the mines mark them as of exceptional character, and when the small capital is considered, the directors confidently anticipate that within a few months the shares will stand on the Stock Exchange at a large premium.

The price to be paid to the vendors, Messrs. Grant and Co., who are the promoters of the company, for the leases (including the expenditure incurred in developing the property), plant, machinery, and stock of ore in warehouse, and all and every appurtenance to the property, is £40,000, of which one-half is payable in 20,000 shares of the company, thus leaving an available working capital of £25,000, which is considered ample for all purposes.

In conclusion, the directors believe *on bona fide* a property has not for years been offered to the public, with the great advantage of being in a condition to easily earn dividends at an unusually remunerative rate, and the directors would call particular attention to the fact that they are not asking for capital to prove a mine, but to extend and carry on a property that has been already opened at a great expense, and only requires additional outlay to make it a most valuable concern, capable of immediate returns as soon as the stamps (which are now being delivered on the mine) are erected.

In the event of a smaller number of shares being allotted than applied for, the surplus of the deposit will be applied to the payment of the amount due on allotment.

Application will be made for a quotation of the shares in the Official List of the London Stock Exchange as soon as they are allotted.

All official reports, leases, contracts, can be seen at the offices of the company.

The following contract, dated 25th October, 1884, has been entered into between Grant and Co. and Roger Swire Tomlin, as a trustee for the company, for the purchase of the leases, plant, and machinery. Letter dated 17th August, 1880, A. Grant to M. A. Reed and Captain Lobb. The mines having been opened out, and sinking and driving taken place since 1881, there have necessarily been many other contracts than those above alluded to, and which are too numerous to refer to; all applicants will, therefore, be considered to have waived requiring, in accordance with Article 35 of the Companies Acts, the setting out of the names and addresses of the parties thereto.

Application for shares must be made in the accompanying form, and be forwarded with the deposit of 5s. per share on each share applied for, to either of the bankers of the company, or to the Secretary, at the company's office, of whom detailed prospectuses and forms of application may be obtained.

12, Fenchurch-street, E.C., London, 24th March, 1885.

## THE NORTH TRESKERBY TIN AND COPPER MINES (LIMITED).

To any intending investor desiring to visit the mine, the directors will be most happy to give an order to do so—in fact, they invite such inspection, feeling no description of the property can convey to investors the same information concerning its value as a personal examination.

Offices, 12, Fenchurch-street, London, 25th March, 1885.



**MESSRS J. AND J. RANNER,**  
BROKERS,  
LEITH OFFICES, LIVERPOOL.

BUYERS AND SELLERS OF MINES, MINERALS, &c.  
COMPANIES FORMED ON EQUITABLE TERMS.

**J. A. JONES,**  
MINING ENGINEER,  
GIJON (ASTURIAS), SPAIN.

Mines inspected and reported on. Assays and valuations effected.  
Has on hand offers of Mines of Copper, Calamine, Blende, Phosphate  
of Lime, Tin, Lead, Iron, Manganese, and Manganiferous  
Iron Ores.

**MURRAY ASTON,**  
MINING AGENT,

CHRISTCHURCH, CANTERBURY, NEW ZEALAND.

Mines and other properties in any part of Australasia inspected.  
Reports by Government Geologists procured where required.  
Terms very moderate, and expense of sending Engineer from  
England avoided.

Address Cablegrams, "ASTON, CHRISTCHURCH."

**H. R. LEWIS AND CO.,**  
MINING OFFICES,

BARTHOLOMEW HOUSE, BARTHOLOMEW LANE, LONDON, E.C.  
AND  
157, ST. VINCENT STREET, GLASGOW.

Supply accurate and reliable information on all Mines, Home and Foreign.  
Execute orders and advise the Purchase or Sale of Mining Securities.  
Undertake the Management of Mines or Mining Companies.  
INVESTORS WILL AVOID LOSS BY CONSULTING US BEFORE BUYING OR SELLING  
MINING SECURITIES.

ESTABLISHED 1871.

**NORTON, HEBERT, AND CO.**  
LLANELLY,

SUPPLY MINING COALS, SMOKELESS STEAM COALS, AND  
ANTHRACITE STEAM COALS, F.O.B., AT LLANELLY AND BURY PORT,  
AND DELIVERED IN TRUCK LOADS AT ANY RAILWAY STATION.

**W. TREGAY and CO.,**  
MINING ENGINEERS, REDRUTH.

Are prepared to INSPECT and REPORT ON METALLIC MINES in any part of  
the world. Plans and Estimates supplied. Mining and Dressing Machinery  
contracted for and erected.

NOW ON SALE.—Pneumatic Stamps, Rock Drill Compressors, Air Receiver,  
&c. Also a complete series of the *Mining Journal* from the first number thereof.

**MEXICO.**

**JOHN PETHERICK**, a Cornish Mining Engineer, after a visit to  
this country for his health, is about to return to that Republic,  
and is prepared to INSPECT, SURVEY, and faithfully REPORT  
ON Mining or other Properties on reasonable terms.

Having had over 18 years' experience in the country, he is conse-  
quently able to give an opinion likely to be of value to those who  
may honour him with their commission.

Present Address: St. Agnes, Cornwall. After the 28th February,  
all communications to be sent to Pachuca, Mexico, via New York  
and El Paso.

**NORWAY.**

**MR. P. WÜRZBURGER**, MINING ENGINEER, formerly  
residing in Dalton-in-Furness, North Lancashire, will shortly  
proceed to NORWAY to INSPECT and REPORT ON MINES on  
account of Belgian capitalists; and offers his services to examine  
on this occasion other Mines in that country.

Address: Hotel Du Grand Miroir, Antwerp.

**SMELTER.**

**WANTED**, an experienced, reliable, and capable MAN as  
CHIEF MANAGER of large Copper Mines and Smelting  
Works in the United States. He must be thoroughly conversant  
with the Concentration and Smelting of Copper Ores. A good salary  
would be given to a suitable person.

Address, "A. W.," MINING JOURNAL Office, 26, Fleet-street, E.C.

**FOR SALE**, owing to alteration of Premises:—  
One strong compound McNaught BEAM ENGINE, with con-  
denser and air pump; cylinders 26 in. by 2 ft. 1 in. and 32 in. by  
5 ft. stroke; Meyer's expansion valve to high pressure cylinder.  
Also one Green's ECONOMISER, 72 pipes. All in good working  
order; 100 lbs. pressure.  
May be seen working at 27, Edmund-street, Liverpool.

**AN OLD ESTABLISHED FIRM** in Spain is open to represent  
first-class English Commercial Houses and private enterprises  
for General Merchandise, Patents, Concessions, &c.  
Address, GORDON, HERENS, and Co., 56, Caballero de Gracia,  
Madrid.

**MECHANICAL MINER** will be shortly OPEN to ENGAGE-  
MENT. Proficient in Rock-drilling, Automatic Ore Dress-  
ing, Pumping, Winding, &c. Speaks English, French, and German.  
Highest testimonials and references.  
Address, "Mechanical Miner," MINING JOURNAL Office, 26, Fleet-  
street, London, E.C.

**TIN SMELTING AND ASSAYING.**

**WM. BRAY**, of the Redruth Tin Smelting Works, is about to  
leave his post there as WORKING MANAGER and ASSAYER, and  
will be FREE to TAKE another ENGAGEMENT, May 1. Over 20 years at the  
above works.

**WANTED**, a FEW CAPITALISTS to join in SECURING some  
very valuable GOLD MINING and LAND PROPERTIES,  
from which large profits can be made.  
For particulars apply to THOMAS CORNISH, M.E., care of MINING  
JOURNAL Office, 26, Fleet-street, E.C.

**AGENTS WANTED TO PUSH FIRST-CLASS MACHINERY**  
OILS commanding a large and successful sale. Liberal  
commission.  
Address, "Box 22," Post Office, Liverpool.

**WOLFRAM**.—To Promoters of Public Companies, Capitalists,  
and Others.—Advertiser has the richest WOLFRAM MINE  
in the world.  
For particulars, address to "X. Y. Z.," MINING JOURNAL Office,  
26, Fleet-street, London.

**WANTED**, an ANALYTICAL CHEMIST, who has had  
experience in a Laboratory, Copper, Sulphur, and other  
general work.  
Address, stating terms, to "Beta," MINING JOURNAL Office, 26,  
Fleet-street, E.C.

**TEA AT WHOLESALE PRICES**.—Why pay Grocers and Stores  
2s. 6d. per lb. when you can buy direct from importers choice  
Congou Tea (whole leaf) at 1s. 4d. per lb. Carriage paid. Cash on  
delivery. Sample post free 12 stamps.  
THE DIRECT TEA SUPPLY COMPANY, Customs Chambers, London,  
E.C.

**MINING ENGINEERS**.—A Practical Mechanical Engineer  
(aged 22) holding certificates for mechanical drawing SEEKS  
an ENGAGEMENT in office of Mining Engineer, where he would  
have an opportunity of learning mining engineering. Nominal  
salary.  
Address, "W. H.," 7, West Parade, Huddersfield.

**COAL MINES REGULATION ACT, 1872.**

**EXAMINATION FOR MANAGERS' CERTIFICATES OF COMPETENCY.**

DISTRICT UNDER THE CHARGE OF HENRY HALL, Esq.,  
H.M. INSPECTOR OF MINES.

PERSONS desirous of being EXAMINED in this District for  
MANAGERS' CERTIFICATES OF COMPETENCY, under the above-  
named Act, should at once COMMUNICATE with the Secretary to the Board of  
the above-mentioned District at the following address:—

M. W. PEACE, The Arcade, King-street, Wigan.

By order of the Board,  
MASELL Wm. PEACE, Secretary.

N.B.—Persons who do not reside within the District are equally eligible for  
examination with those who do.

**In the Court of the Vice-Warden of the Stannaries.**  
Stannaries of Cornwall.

PURSUANT to a Decree made in the Cause of HARVEY and  
CO. v. CURTIS, the Creditors in respect of the Mergern and Combelack  
Mine, in the parish of Wendron, within the said Stannaries, are required, on or  
before the 2nd day of April next, to SEND IN their NAMES and ADDRESSES  
and the AMOUNTS and PARTICULARS, with dates, of their respective claims,  
to FREDERICK MARSHALL, Esq., the Registrar of the said Court, at his office in  
Truro.

HODGE, HOCKIN, and MARRACK, Truro,  
Plaintiffs' Solicitors.

Dated Registrar's Office, Truro, March 23rd, 1885.

**In the Court of the Vice-Warden of the Stannaries.**  
Stannaries of Cornwall.

PURSUANT to a Decree made in the Cause of HARVEY and  
CO. (LIMITED) v. FRISK, the Creditors in respect of the North Metal  
Mine, in the parish of Breage, within the said Stannaries, are required, on or  
before the 2nd day of April next, to SEND IN their NAMES and ADDRESSES  
and the AMOUNTS and PARTICULARS, with dates, of their several claims, to  
FREDERICK MARSHALL, Esq., the Registrar of the said Court, at his office in  
Truro.

HODGE, HOCKIN, and MARRACK, Truro,  
Plaintiffs' Solicitors.

Dated Registrar's Office, Truro, March 23rd, 1885.

**In the High Court of Justice—Chancery Division.**  
Mr. Justice KAY.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867; and  
IN the MATTER of the JOINT-STOCK COMPANIES ACT, 1870; and  
IN the MATTER of the FLAGSTAFF DISTRICT SILVER MINING COMPANY  
(LIMITED).

Notice is hereby given that his Lordship, Mr. Justice KAY, has directed a  
Meeting of the Creditors (including debenture-holders and unsecured creditors)  
of the said company to be summoned, pursuant to the said Statutes, for the pur-  
pose of considering, and, if deemed advisable, to pass Resolutions approving of  
a proposed arrangement for the sale of the company's mining property and  
effects, upon the terms and conditions contained in an agreement, bearing date  
the 15th day of February, 1885, and which agreement will be produced at the said  
meeting, and that such meeting will be HELD on WEDNESDAY, March 31st, at Two  
of the clock in the afternoon, at the City Terminus Hotel, Cannon-street, in the  
City of London. And Notice is further given that the said Judge has directed a  
Meeting of the Contributors of the said Company to be summoned for the like  
purpose, and that such meeting will be held on Monday, the 30th day of  
March, 1885, at Three o'clock in the afternoon, at the City Terminus Hotel,  
Cannon-street, aforesaid. The said Judge has appointed Frederick Whinney,  
the Official Liquidator of the said Company, to act as Chairman of both such  
Meetings, and of any adjournment thereof.

The said Agreement may be seen by any Creditor or Contributor of the said  
Company at the Office of Messrs. SNELL, SON, and GREENIP, Nos. 1 and 2,  
George-street, Mansion House, in the City of London, the Solicitors for the  
Official Liquidator, prior to the said Meetings.

WILLIAM BINNS SMITH (Chief Clerk),  
Snell, Son, and Greenip, 1 and 2, George-street, Mansion House,  
London, E.C., Solicitors for the Official Liquidator.

Dated this 20th day of March, 1885.

**In the High Court of Justice in Ireland.**

**CHANCERY DIVISION—MASTER OF THE ROLLS.**  
BOROUGH AND COUNTY OF SLIGO.

**WILLIAM POLLEXFEN**, Plaintiff; **ALEXANDER IRWIN MIDDLETON**,  
Defendant.

RENTAL and PARTICULARS and CONDITIONS of SALE of VALUABLE  
PROPERTIES, held in fee-simple farm, and for terms of years in and  
about the towns of Sligo, Collooney, and Ballisodare, which will be SOLD  
BY PUBLIC AUCTION by

**MR. ROBERT MAVEETY**, Auctioneer, at his Auction Rooms in  
the town of Sligo, on FRIDAY, the 17th day of April, 1885, at the hour  
of Twelve o'clock noon, pursuant to the orders for sale in this Cause made on the  
22nd day of June, 1883, and the 22nd day of April, 1884, comprising amongst  
other property:—  
Lot 9.—Lands of Abbeytown, containing 349A. 3R. 26½p. statute measure or  
thereabouts, held in fee-simple, situated in the Barony of Loney, and county of  
Sligo, held under Landed Estates Court Conveyance dated 30th day of April,  
1874.

The yearly rental of this property at present is £327 14s. 1d., and the purchaser  
will be entitled to the mining plant and valuable ore now lying on the surface.

**DESCRIPTIVE PARTICULARS.**

Lot 9.—This lot comprises very valuable fee-simple property, situate close to  
the town of Ballisodare, a station on the Midland Great Western Railway, in  
said county of Sligo. It is let to solvent tenants at very moderate rents. A  
portion of the property is let to a temporary tenant for grazing purposes only,  
and will be given up at the end of the season. This portion comprises most  
valuable lead and zinc mines, which were partially opened and worked by the  
late firm of Middleton and Pollexfen. This lot also comprises the mining plant  
used by the late firm in working the said mines, as well as a large quantity of  
valuable silver, zinc, and lead ore raised from the mines and now lying on the  
surface. This portion of the property is situate on the Ballisodare River, which  
is sufficiently close to the mine to enable workers to wheel ore, &c., on board  
lighters with a barrow if required. This property has been very much improved.  
Besides £500 borrowed from Board of Works, some hundreds more were expended  
in draining, levelling, and making new fences, and otherwise generally improving  
the lands.

For rentals, conditions of sale, and further particulars, apply to CHARLES  
SEIDLEY, Esq., Solicitor for the defendant, 56, Lower Gardiner street, and Sligo;  
Messrs. HAMILTON and CRAIG, Solicitors for the plaintiff, having carriage of the  
sale, 30, South Frederick-street, Dublin; or to Mr. ROBERT MAVEETY, the  
auctioneer, Sligo.

**EXTENSIVE AND IMPORTANT SALE OF PIT PLANT**

At Brobyroyston and Balornock Pits, by Steps Station, Caledonian Railway,  
on THURSDAY, 2nd April, 1885, at 11:30 A.M.

**TWELVE PUMPING and WINDING BEAM and HORIZONTAL** (two pair  
coupled) ENGINES and gearing: ten egg-end boilers and mountings; one  
double-flued boiler and mountings; dock engines and boilers; pit pump  
and steam pipes; double powered cranes; pithead frames; railway and pit  
rails; smithy and joiners tools; workshops, &c., &c.

**SHIRLAW, ALLAN, and CO.** have been favoured with  
instructions from Messrs. JAMES DUNLOP and Co. TO SELL, BY  
AUCTION, as above.

Particulars in Catalogues.  
Hamilton, 13th March, 1885.

**THE BORROWDALE PLUMBAGO MINES,**  
CUMBERLAND.

TO BE SOLD, BY PRIVATE TREATY, the unexpired term of  
35 years in the above old and celebrated Mine.

For further particulars, apply to WM. HOPES HEELIS, Solicitor,  
Hawkshead, Ambleside; or to E. T. HARGRAVES, Esq., 18, South-  
mark-street, London Bridge, London, S.E.

**IMPORTANT TO MINE OWNERS.**

**COMPLETE PLANT OF ROCK DRILLING MACHINERY**  
FOR SALE, comprising Air Compressor, Vertical Boiler,  
Rock Drills, and appliances, Air Supply Piping, &c.  
Address,—WARSON and HILL, NOTTINGHAM.

**STANDARD ORE CRUSHER—UNIVERSAL PULVERISER.**

FOR SALE, the STANDARD ORE CRUSHER, 12 x 6,  
with Elastic Steel Connecting Rod.  
Also, ONE 20 inch UNIVERSAL PULVERISER. Will reduce  
to powder any refractory material, wet or dry, Tin Ores, Quartz, &c.  
Apply,—  
C. E. HALL, STANDARD IRONWORKS, SHEFFIELD.

**QUICKSILVER WAVE AMALGAMATOR CO. (LIMITED).**

(MOORE'S PATENT.)

THE LATEST REPORT in use of these Machines is from the  
Managing Director of the Indian Gold Mines Company, who  
writes to his Board:—"We have now by far the best and cheapest  
system of amalgamation in India." At the Conrad Hill Mine, after  
upwards of a year's trial, they are discarding copper plates and pans  
in favour of these Amalgamators.

Works: 17, Wharf-road, City-road—Offices: 15, Coleman-street, E.C.

**MINE "EL GUAYANA, VENEZUELA."**

32,200 SHARES.

Gold in bars produced in the month of February, 1885, remitted  
to Messrs. Baring Brothers and Co., London—9112.53 ozs.

DIVIDEND distributed for each Share, 16 francs.

(Signed) A. LICCIONI, President.  
(Signed) VICTOR T. GRILLET, Treasurer.

**THE LINARES LEAD MINING COMPANY**  
(LIMITED).

Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of  
the shareholders of this company will be HELD at this office on THURSDAY,  
the 2nd April next, at One o'clock P.M.

To receive the accounts, balance-sheet, and reports of the directors, auditors,  
superintendents, and mining agents for the half-year ending 31st December, 1884.  
To elect two directors in the place of Robert Henry, Esq., who retires from  
office by rotation, and offers himself for re-election, and John P. Judd, Esq., who  
has resigned. Richard Donagan, Esq., has been appointed by the Board to fill  
the vacancy thus created, and this appointment will be submitted to the share-  
holders for confirmation.

To appoint two auditors for the ensuing year. Edward L. Agar, Esq., who is  
eligible, offers himself for re-election; and James W. Jepps, Esq., duly qualified,  
offers himself to fill the vacancy caused by Richard Donagan, Esq., being ap-  
pointed a director.

And for general business, as authorised by the Deed of Settlement.

By order of the Board,  
H. SWAFFIELD, Secretary.

No. 5, Queen-street-place, London, E.C., 25th March, 1885.

**THE FORTUNA COMPANY**  
(LIMITED).

Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of  
the shareholders of this company will be HELD at this office on THURSDAY,  
the 2nd April next, at half-past One o'clock P.M.

To receive the accounts, balance-sheet, and reports of the directors, auditors,  
superintendents, and mining agents for the half-year ending 31st December, 1884.  
To elect two directors in the place of Robert Henry, Esq., and John P. Judd, Esq.,  
who go out of office by rotation, and, being eligible, offer themselves for re-  
election.

To elect a director in the place of John P. Judd, Esq., who has resigned. The  
Board recommends that Richard Donagan, Esq., duly qualified, be appointed  
to fill this vacancy.

To appoint two auditors for the ensuing year. E. J. St. John, Esq., who is  
eligible, offers himself for re-election; and E. L. Agar, Esq., offers himself for  
election in the place of Richard Donagan, Esq.

And for general business, as authorised by the Deed of Settlement.

By order of the Board,  
H. SWAFFIELD, Secretary.

No. 5, Queen-street-place, London, E.C., 25th March, 1885.

**THE ALAMILLOS COMPANY**  
(LIMITED).

Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of  
the shareholders of this company will be HELD at this office, on THURSDAY,  
the 2nd April next, at Two o'clock P.M.

To receive the accounts, balance-sheet, and reports of the directors, auditors,  
superintendents, and mining agents for the half-year ending 31st December,  
1884.

To elect two directors in the place of John R. Pell, Esq., who retires from  
office by rotation, and, being eligible, offers himself for re-election, and John P.  
Judd, Esq., who has resigned. Richard Donagan, Esq., has been appointed by  
the board to fill the vacancy thus created, and this appointment will be sub-  
mitted to the shareholders for confirmation.

To appoint two auditors for the ensuing year. Edward J. St. John, Esq.,  
offers himself for re-election, and James W. Jepps, Esq., duly qualified, offers  
himself for election in the place of Richard Donagan, Esq.

And for general business, as authorised by the Articles of Association.

By order of the Board,  
H. SWAFFIELD, Secretary.

No. 5, Queen-street-place, London, E.C., 25th March, 1885.

**THE KAPANGA GOLD MINING COMPANY OF**  
NEW ZEALAND (LIMITED).

IN LIQUIDATION.

The Liquidators are prepared to RECEIVE TENDERS, on or before the 11th  
April, 1885, for the SALE of the MINE, PLANT, and MACHINERY as a going  
concern.

Full particulars may be obtained of the Liquidators, W. J. LIVINGSTON, Esq.,  
Dashwood House, New Broad-street; and J. O. BOLTON, Esq., F.C.A., 23, Great  
St. Helens, E.C.; or of Messrs. SNELL, SON, and GREENIP, Solicitors, 1 and 2,  
George-street, Mansion House, E.C.

**THE**

**POLYAR AND BOSINVER CONSOLS**  
**TIN MINING COMPANY**  
(LIMITED).

CAPITAL £25,000,

Divided into 25,000 Shares of £1 each.

Payable—5s. on application, 5s. on allotment, and the balance as  
required.

**PROVISIONAL DIRECTORS.**

**JOHN BURY**, Esq., Trevarick, St. Austell, Cornwall.  
**Colonel J. W. DARVILL**, Witham House, Witham, Essex.  
**R. B. FASTNEDGE**, Esq. (Chairman of Tregontrees and Old Pol-  
gooth Consols Mine, Limited).  
**F. H. LVELL**, Esq., 26, Birchin-lane, E.C.; and Nettlesome,  
Bickley, Kent.  
**SIMON TRUSCOTT**, Esq., Merchant, Charlestown, St. Austell,  
Cornwall.

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This company is formed to acquire and work the mines known as  
the Polyar and Bosinver Consols, a property of considerable extent,  
situate in the parish of St. Mewan, less than two miles from St.  
Austell, Cornwall, and directly on the junction of the main lodes of  
the Polgooth district, as shown by the Government geological map.

Unusual opportunity has been afforded the directors to become  
thoroughly acquainted with the property proposed to be acquired;  
and before undertaking the responsibility of their position they have  
taken advantage of their opportunities to the fullest extent by  
obtaining the opinion not only of professional mining experts, but  
of the captain, tributers, and practical miners in the neighbourhood,  
from all of whom, without exception, they have received reports in-  
dicating the certain and most abundant returns to be obtained from  
the Polyar and Bosinver Mines.

At present there is erected on the mines a powerful semi-portable  
engine for pumping and winding, two powerful water-wheels,  
20 heads of stamps in full work, burning floors, dressing floors, and  
every requisite for working upon this scale; but to do anything like  
justice to such a property, and stamp the stopping ground even now  
laid open, more heads must be erected, and the plant increased in  
proportion.

The directors consider this outside of speculative mining. The  
discoveries actually made being ample to assure very large returns,  
and what is most essential is the fact that the shareholders are taking  
over a going concern, and have not to wait for the erection of ma-  
chinery or the proving lodes before the company makes a return.  
From the day the contract is confirmed it can do so, and it is only  
to increase the machinery to raise those returns to an enormous ex-  
tent—in fact, the directors can confidently state such an opportunity  
for investment in mining is very seldom offered to the public. Those  
intending shareholders who reside in the district can best appreciate  
and give full weight to this important fact.

Full Prospectus, Reports of Mining Captains, &c., can be obtained  
on application from the Bankers and at the Office of the Company  
and from

**R. B. FASTNEDGE**, Esq., Polgooth, St. Austell

Orders to view the property may be obtained from  
Captain EDWARDS, Wood Close Mine, St. Austell.



THE STURTEVANT MILL.

The stamp-mill has been threatened with extinction for so many years, and by so great a variety of machines, that its continued and active existence is quite discouraging to inventors. One reason against the extinction of the stamp-mill is its universality; it is efficient for wet or dry, fine or coarse crushing, and on gold ores is the most simple and effective amalgamator, as well as pulveriser. This variety of uses is a strong reason against the likelihood of the stamp being superseded by any one machine, as to improve on its work in one direction is to lessen the chance of the same machine equalling it in its other uses. The dry crushing of ores for roasting or amalgamating is the least satisfactory performance of a stamp, its capacity being less than in wet crushing, whilst the installation of the plant is more expensive. Rolls have, to a small extent, been used for dry stamps where very fine product is not necessary or desirable, but the limits of their application are not yet well understood. The Sturtevant mill is a machine of great promise for dry crushing of any but soft ores, either preparatory to roasting for amalgamation or leaching, or, instead of wet crushing, for raw amalgamation.

The machine consists essentially of two open cylindrical heads which enter opposite sides of a circular screen lined casing, and revolve very rapidly in opposite directions. The ore is fed in at a hopper on top of the circular case, and immediately packs into each cylinder head as a conical lining, having a fixed unvariable angle corresponding with diameter and length of cylinder. This conical lining of rock becomes the real wearing surface of machine in operation. The pieces of rock are thrown out of the rapidly revolving heads by and along this rock lining, the wear of which is ever replaced by the new material. The revolutions of the two heads being in opposite directions, the projected rock is subject to terrific concussion from the opposed currents, and the centrifugal force given by each head is wholly consumed in the crushing of rock against

rock. Two very curious facts are developed in this machine. First, the screen is exposed to extremely little wear when placed a short distance from, and concentric with the heads; the force of the projected rock is spent inside the diameter of the cylinders owing to their opposed revolutions.

Second: The machine cannot be over-fed. The hopper on top of casing can be kept full of rock, which will settle down as fast as the rock between the heads is discharged through screen, and makes room for more. The machine has not yet been arranged for wet crushing, but it does not require the material to be more than air-dried, a great advantage over dry stamps, which require ore to be absolutely dry and warm. A little moisture in the ore does not interfere with its crushing or discharge.

The Sturtevant mill has been used continuously for some months on copper matte and hard phosphate rock, both of which materials offer unusual difficulty in crushing by either rolls or crusher. The present known field for the use of the machine is as follows:—For rapid and fine pulverisation of phosphates, cement, plaster, flints, paint, &c.; for copper matte of the hardest and toughest descriptions; slags and other furnace products; for dry crushing of ores, for raw amalgamation in pans, and for ores requiring roasting prior to amalgamation or leaching. In many mining districts the freight and cost of erection of this will constitute a great advantage in its favour over stamps or rolls. For the larger size no rock breaker is necessary, large masses of rock being as easily crushed as smaller. The mill can be used in connection with one set of rolls when finer crushing than 30 mesh is not required, by using a coarser screen in mill, and delivering the portion coarser than required size to rolls. The capacity of the mill used in this way is simply enormous on phosphate rock, with 1-4 in. holes in screen of mill, one 12-in. machine has treated 7 tons per hour, taking the rock in lumps of 4-in. cube. On copper matte in Newark, New Jersey, an 8-in. mill is crushing 3 1/2 tons per hour. On Dakota tin ore, full of coarse tough mica, a 6-in. mill in New York has crushed 1500 lbs. per hour, grinding up the mica in so thorough a manner as to com-

pletely free it of the tin ore, and making no more slimes of the latter than rolls do.

Two arguments may be urged by practical men against the mill—first, to its high speed, second to its production of fine material. To the first the best answer is that in practice no difficulty is experienced with the journals constructed as they are, and the mills have had long continued hard usage. The second objection is also disposed of by the facts observed in crushing a large variety of materials. Where the finest pulverisation is required as for cement, flint, paint, &c., a fine screen is used in the mill, and the speed is arranged to produce more attrition among the particles of material and less concussion. If it is desirable to avoid sliming the material as for concentrating or roasting, a coarser screen is used of quicker motion. An actual comparison with pulp from dry crushing stamp mills shows that the Sturtevant mill regulated as just described, makes considerably less fine dust than the stamps, so that any process on which dry stamps can be used will be equally successful after the Sturtevant mill. A silver ore containing 33 per cent. of mineral consisting of galena, zinc, blende, and iron pyrites, put through a 6-in. mill with coarse screen showed after discharge, and contrary to all expectations, an almost entire absence of slime mineral; it appears that the more brittle mineral flies immediately on concussion of the rock and mineral mixture escaping by the screen before any serious attrition occurs.

In conclusion, and as an illustration of the fact claimed that the centrifugal force given the material to be ground is wholly spent in the mutual concussion and attrition of the particles it may be said that cast-iron balls 1 1/2 in. in diameter have been fed into an 8-in. mill, and were rapidly broken, and ground without injury to the machine. The manufacture of this machine has been taken up by Messrs. Fraser and Chalmers, of New York, which is in itself pretty strong evidence that there is something of more importance in the mill than the thousand and one new pulverisers which threaten to revolutionise ore crushing, but do not succeed in getting the endorsement of practical machinery manufacturers.—Mining Record.

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NOTICES FROM THE PRESS.

A new candidate for the favour of patrons of periodical literature is the English edition of the "Golden Argosy," a weekly paper whose American edition has for some time past been enormously popular on the other side of the Atlantic. Its contents are interesting, wholesome, and good, without being good, and the paper seems to have class enough to run upon its own merits. The proprietors, however, announce their intention of giving away, among their subscribers, under certain conditions, prizes to the value of £100 sterling.—The Referee, London.

We have received the early numbers of the English edition of the "Golden Argosy," a weekly journal containing much that is interesting. The serial stories are ably written, and the paper abounds with matter of a highly entertaining description, while the illustrations, which are numerous, are characterized by refinement and finish. It is exceedingly well printed on rolled paper.—Morning Advertiser, London.

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We think the paper ought to become popular. There are three good reasons why it should do so, these being:—It is well printed and illustrated, the subscription is only eight shillings a year, and the whole space is occupied with reading matter, there being no advertisements. Happy newspaper property, not to acquire this.—Whitell Review, London.

The paper abounds with excellent stories, exciting and pure in tone, and with "familiarities" of every imaginable kind, which cannot fail to be productive of mirth and good humour.—Belast News-Letter.

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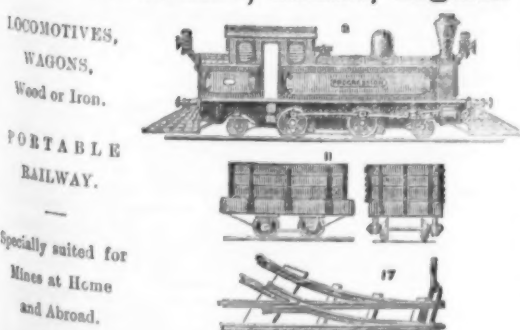
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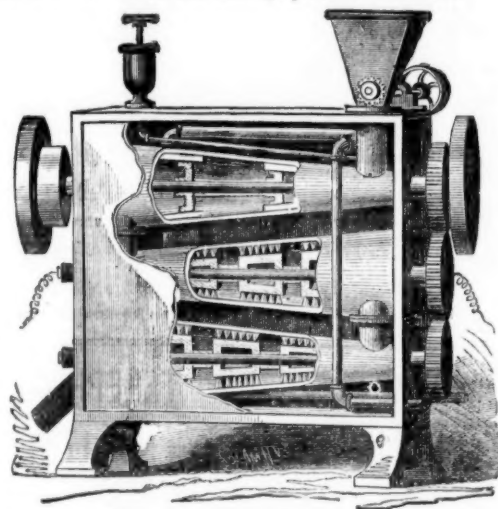
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NOVEL ELECTRO METALLURGICAL MACHINE.

PROFESSOR JAMES MANES AND SONS call the attention of miners, mineowners, capitalists, and others interested in the working of gold or silver mines to their new Electro Metallurgical Machine for extracting fine and rusty gold from sands or tailings of stamp mills, or the sands of hydraulic gold diggings, or from the black sands on the coast of Oregon or California, and other parts of the world where gold is found.

The problem that has long troubled the worker of free-milling gold and silver ores is a method to save the mineral now lost in the tailings of stamp mills or flumes. This alone, if it could be saved, would amount to many million dollars profit each year, besides enabling the working of much territory which is now lying idle for want of an economical and thorough process of treatment.



Prof. James Manes and Sons, of Denver, Colorado, U.S., have invented a machine (represented in the above engraving) which it claimed will save nearly the entire amount of mineral which passes through it, the loss not being over 10 per cent., and in many cases not in excess of half that amount. The machine is a cheap and practical process—it never need stop for charging or cleaning up, being nearly self-acting. Steam, electricity, and mercury are used in the process of extracting the mineral.

This machine or amalgamator is adapted for free-milling gold or silver ores, or refractory after roasting. It consists of a series of three or more large cylinders, whirled at one end than the other, placed one above the other in a horizontal position, a shaft or spindle running through the centre of each.

The ore and mercury are fed into the first cylinder, passing into the second, and then to the third. The first cylinder is furnished with steel millers which nearly touch the sides of the cylinder, and revolve at a good rate of speed, mixing the mercury and ore. The second cylinder is furnished with large steel brushes attached to the shaft or spindle, revolving at a high rate of speed; through this a current of electricity is furnished by a Westinghouse dynamo electric machine, which materially assists in gathering the particles of very fine gold together, and thoroughly amalgamating the metal and mercury. The third cylinder is similarly furnished to the second; into this the amalgam passes, and is again acted upon and mixed by the brushes to catch any gold which might have escaped amalgamation in the second. A fourth cylinder may be used found necessary.

The amalgamated pulp then passes through a revolving copper drum, plated with quicksilver inside. As the drum revolves it takes up the most part of the amalgamated gold. As the inside of the drum is constantly washed with a spray of water from perforated pipes fixed inside of said drum, a clean-plated surface is constantly brought in contact with the pulp or tailings as it passes out from the cylinders. After leaving the drum it falls down on to incline copper plates, the same as is now used in stamp mills.

The amalgam can be collected from the drum and plates without stopping the machine, and any live quicksilver that passes will be caught in siphons. The tailings are carried off with the water. The machine when attached to the flume will be driven by the waste water; it sifts the fine sands from the coarse gravel, and amalgamates it as above.

The specific points claimed by Prof. Manes and Sons in their patent are—

- 1.—The saving of almost all the mineral passing through the machine.
- 2.—The loss being less than 10 per cent.
- 3.—The entire absence of loss of the amalgamated material, thereby saving all the mercury, which, with the processes now in use, there is a large loss both of mercury and the precious metal.
- 4.—The small cost per ton at which the ore can be treated.

By the addition of the powerful current of electricity that passes off the revolving brushes, the most minute particles of gold will be caught and retained, which in the ordinary flume and stamps passes off with the water; this often amounts to a large percentage.

The inventors state that if English stock companies will give their assistance to work the black sands of Oregon and California by paying for the building of the machines, they will take a share of the gold for their services, or they will send their machines to any part of the world, or will sell patent rights to those desiring any of their patent machines or revolving furnaces for roasting or smelting ores, ball pulverisers, &c.

Prof. James Manes and Sons are agents for the Morey and Sparey Ball Pulveriser, that crushes and pulverises at the same time, and does as much work as eight stamps in a day, crushing either wet or dry.

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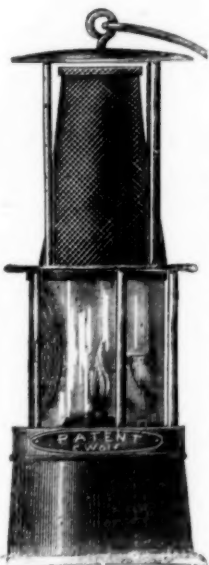
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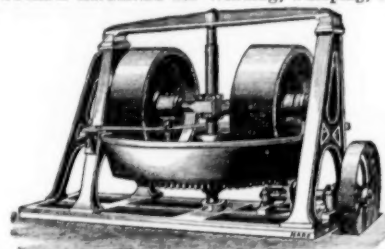
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where it can be applied its cost will be saved in a few weeks. It will be found  
invaluable to accountants generally.

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LONDON: 35, Queen Victoria Street. NEWCASTLE: St. Nicholas Buildings. MANCHESTER: Deansgate. GLASGOW: Argyle and Hope Streets. (No. 3.)

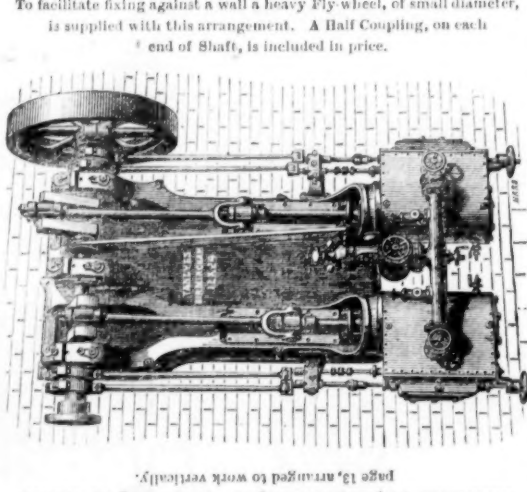
TANGYES' "CORNWALL" STEAM ENGINE,



Steel Crosshead, Piston-rod, and Valve Spindles, Wrought Iron Crank Shaft, Connecting-rod, and Front Columns.

Nominal Horse-power.....	14	12
Diam. Steam Cylinders.....	12	12
Length Stroke.....	12	12
Revolutions per Minute.....	125	125
Price of Engine.....	£ 142	£ 155
Feed Pump with G.M. working parts, extra.....	£ 8	£ 8
Variable Expansion Gear.....	£ 15	£ 15
Holding-down Bolts and Flates.....	£ 72	£ 72
Weight of Engine and Fly-wheel.....	3 3/4	3 3/4

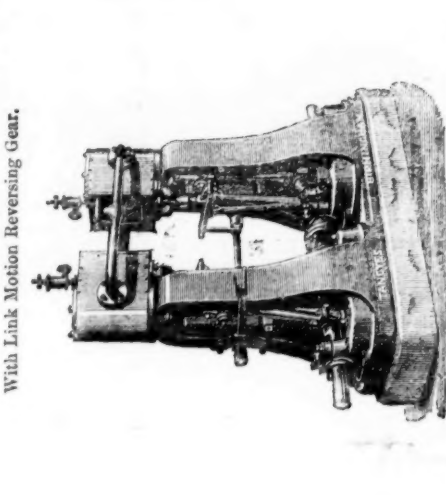
TANGYES' "BELFAST" STEAM ENGINE, Vertical Coupled, with Patent Governor.



To facilitate fixing against a wall a heavy Fly-wheel, of small diameter, is supplied with this arrangement. A Half Coupling, on each end of Shaft, is included in price.

Nominal Horse-power.....	20	23	27
Diam. Steam Cylinders.....	10	12	13
Length Stroke.....	18	24	24
Revolutions per Minute.....	120	125	125
Price of Pair Engines.....	£ 240	£ 284	£ 310
Variable Expansion Gear.....	£ 35	£ 35	£ 35
Weight of Engine and Fly-wheel.....	5 3/4	5 3/4	5 3/4

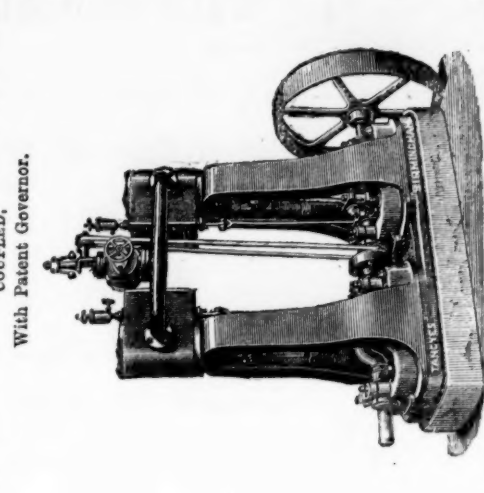
TANGYES' VERTICAL STEAM ENGINE, COUPLED, With Link Motion Reversing Gear.



Nominal Horse-power.....	4	5	6	8	10	12	16	20	24	28
Diam. Steam Cylinders.....	4	5	6	8	10	11 1/2	14	16	18	20
Revolutions per Minute.....	140	140	140	140	140	140	140	140	140	140
Price Pair of Engines.....	£ 58	£ 76	£ 100	£ 125	£ 150	£ 180	£ 221	£ 266	£ 310	£ 354
Diam. Steam Inlet.....	1 1/2	1 1/2	2	2 1/2	3	3 1/2	4	4	4	4
Exhaust Outlets (two).....	1 1/2	1 1/2	2	2 1/2	3	3 1/2	4	4	4	4

A Stop Valve is included in price.  
No Governor nor Feed Pump supplied with this arrangement.  
NOTE.—The 4 and 6-horse power Engines are same design as that shown on page 15.

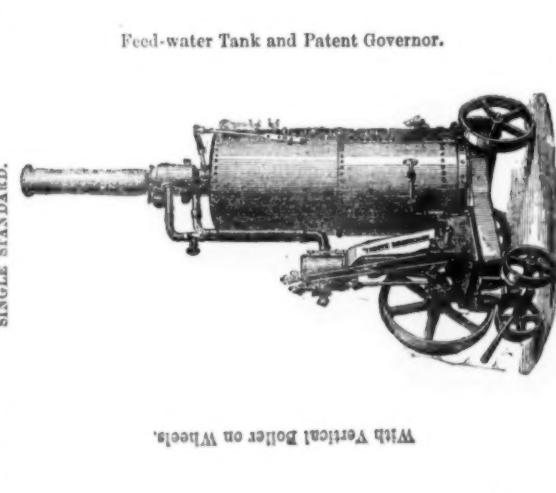
TANGYES' VERTICAL STEAM ENGINE, COUPLED, With Patent Governor.



Nominal horse-power.....	4	5	6	8	10	12	16	20	24	28
Diam. Steam Cylinders.....	4	5	6	8	10	11 1/2	14	16	18	20
Revolutions per Minute.....	140	140	140	140	140	140	140	140	140	140
Price Pair of Engines.....	£ 43	£ 58	£ 74	£ 97	£ 113	£ 138	£ 168	£ 200	£ 230	£ 260
Diam. Steam Inlet.....	1 1/2	1 1/2	2	2 1/2	3	3 1/2	4	4	4	4
Exhaust Outlets (two).....	1 1/2	1 1/2	2	2 1/2	3	3 1/2	4	4	4	4

Feed Pump, extra.  
NOTE.—The 4 and 6-horse power Engines are same design as that shown on page 15.

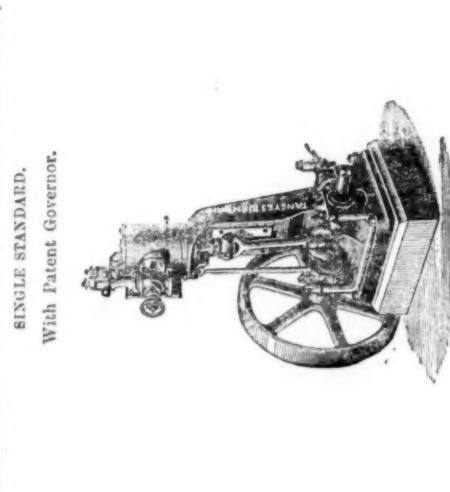
TANGYES' VERTICAL STEAM ENGINE, SINGLE STANDARD.



Feed-water Tank and Patent Governor.

Nominal Horse-power.....	2	3	4	5	6	8	10	12	16	20	24	28
Diam. Steam Cylinder.....	4	5	6	8	10	12	14	16	18	20	22	24
Revolutions per Minute.....	140	140	140	140	140	140	140	140	140	140	140	140
Price of Engine.....	£ 58	£ 76	£ 100	£ 125	£ 150	£ 180	£ 221	£ 266	£ 310	£ 354	£ 400	£ 445
Weight of Engine and Fly-wheel.....	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4

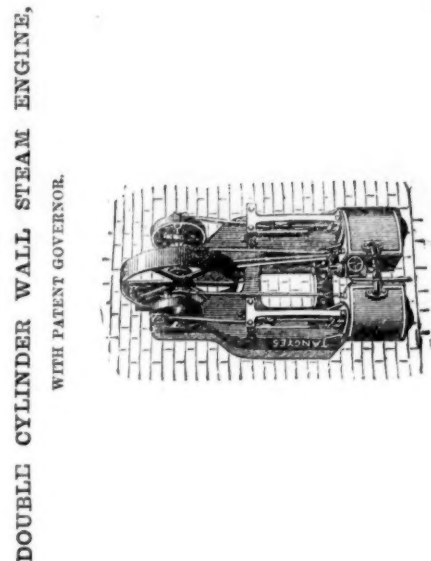
TANGYES' VERTICAL STEAM ENGINE, SINGLE STANDARD.



The Fly-wheel can be put on either end of Fly-wheel Shaft.

Nominal Horse-power.....	2	3	4	5	6	8	10	12	16	20	24	28
Diam. Steam Cylinder.....	4	5	6	8	10	12	14	16	18	20	22	24
Revolutions per Minute.....	140	140	140	140	140	140	140	140	140	140	140	140
Price of Engine.....	£ 58	£ 76	£ 100	£ 125	£ 150	£ 180	£ 221	£ 266	£ 310	£ 354	£ 400	£ 445
Weight of Engine and Fly-wheel.....	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4	5 3/4

TANGYES' DOUBLE CYLINDER WALL STEAM ENGINE, WITH PATENT GOVERNOR.



Nominal Horse-power.....	4	5	6	8	10	12	16	20	24	28
Diam. Steam Cylinders.....	4	5	6	8	10	11 1/2	14	16	18	20
Revolutions per Minute.....	140	140	140	140	140	140	140	140	140	140
Price of Engine.....	£ 50	£ 63	£ 80	£ 100	£ 120	£ 140	£ 170	£ 200	£ 230	£ 260
Diam. Piston, in halves.....	20	27	36	45	54	63	72	81	90	100
Weight of Engine.....	7 1/2	13 1/2	16 1/2	20	24	28	32	36	40	44

It will be seen that these Engines can be placed to work horizontally by simply altering the position of the Governor.

WILLAN'S PATENT THREE-CYLINDER ENGINE.



This Engine is exceedingly simple in construction, having neither eccentrics nor separate slide valves. It consists of three inverted cylinders, cast in one piece parallel to each other. Upon the side of the cylinders is a valve and lever, by which the Engine may be started, stopped, and reversed. All the working parts are contained in the cylinder casing.  
For hoisting operations, and especially for use in foundries, and other purposes where precision in raising and lowering is important, this Engine will be found very suitable.

Diam. Steam Cylinders.....	4	5	6	8	10	12	16	20	24	28
Length Stroke.....	4	5	6	8	10	11 1/2	14	16	18	20
Revolutions per Minute.....	400	400	400	400	400	400	400	400	400	400
Price of Engine.....	£ 55	£ 65	£ 80	£ 100	£ 120	£ 140	£ 170	£ 200	£ 230	£ 260
Weight of Engine.....	5	6	8	10	12	14	16	18	20	22

Driving Pulleys or Gear can be attached at either end of the crank shaft to suit requirements.



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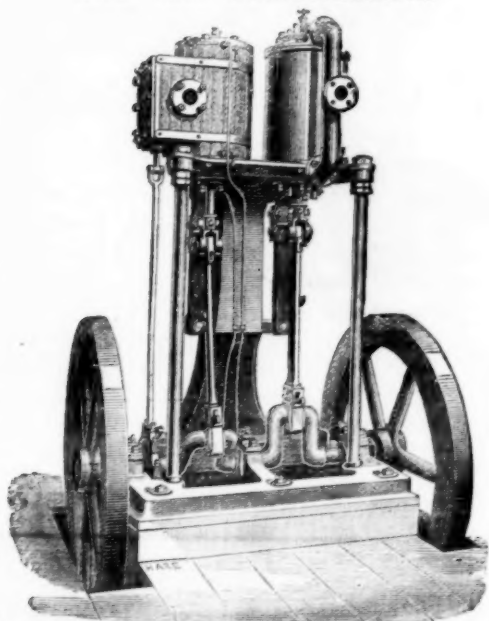
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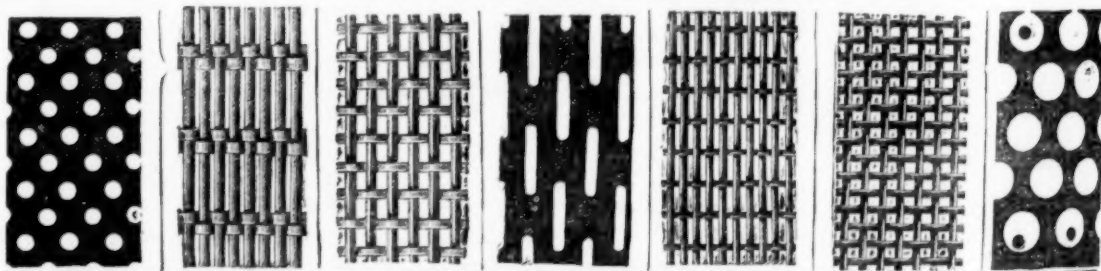
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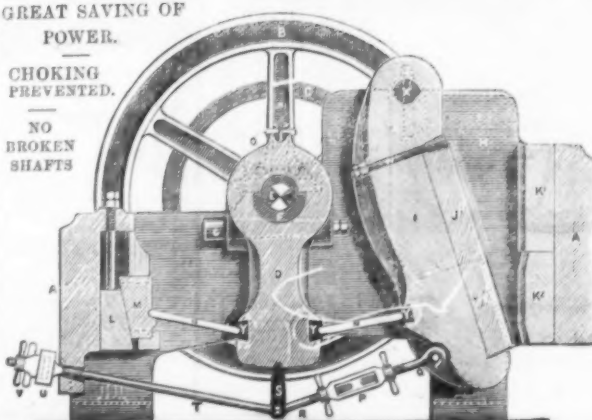
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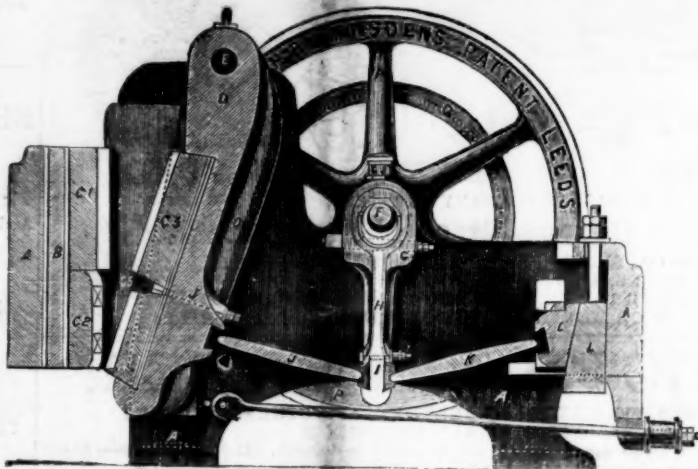
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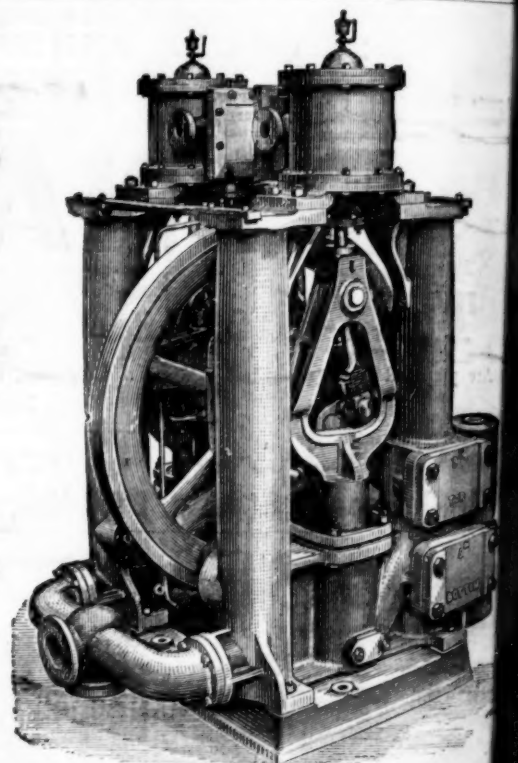
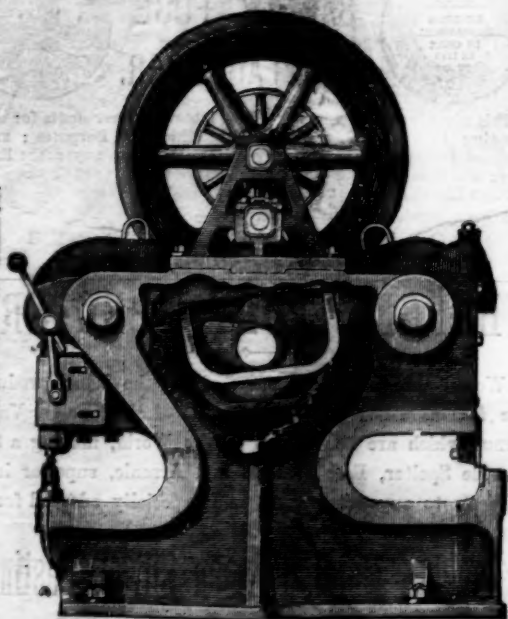
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